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Female Botanists

Miss Sparrow - P. 314 -

Fagus (castanea) — Chesnut

The great Chesnut of Tortworth

measures 52 ft. round supposed to be

least 1100 years old

[illegible] 183.

- Asperula 'Odorata'

Its flowers infused in Water

for [illegible] all the Teas of

China

A

# SYSTEMATIC ARRANGEMENT

OF

# BRITISH PLANTS;

WITH AN EASY

## INTRODUCTION TO THE STUDY OF BOTANY.

ILLUSTRATED BY COPPER-PLATES.


BY WILLIAM WITHERING, M.D. F.R.S.

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THE FOURTH EDITION, IN FOUR VOLUMES:

CORRECTED AND ENLARGED


BY WILLIAM WITHERING, ESQ.

*Of the College of Glasgow and University of Edinburgh; Extraordinary Member of the Royal Medical Society; Fellow of the Linnean Society, &c.*


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"Primus gradus sapientiæ est res ipsas nosse." LINN.

"Increscunt quotannis Scientiæ, emendantur quotidie, et ad fastigium suum optatum sensim sensimque, plurium virorum opera et studio junctis, feliciter properant." THUNBERG.

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# CLASS I.

# MONANDRIA.

## MONOGYNIA.

(1) *Flowers with stamens, and flowers with Pistils on the same plant.*

CHA'RA. Male. *Calyx* none.
Fem. *Calyx* 4 leaves. *Summit* 3-cleft. *Seed* 1.
[Salix monandra.]

(2) *Hermaphrodite flowers.*

HIPPU'RIS. *Calyx* none. *Blossom* none.

SALICOR'NIA. *Cal.* 1 leaf, 4-cornered, lopped, belly-ing. *Bloss.* none.

A'PHANES. *Cal.* 1 leaf, tubular: rim flat, with 4 or 8 clefts. *Bloss.* none.
[Valeriana rubra. Ophrys spiralis, ovata.]

## DIGYNIA.

CALLI'TRICHE. *Cal.* none. *Bloss.* 2 petals. *Capsule* 2-celled.
[Festuca myurus.]

## TETRAGYNIA.

ZANNICHEL'LIA. Male. *Cal.* none. *Bloss.* none.
Fem. *Cal.* 1 leaf. *Bloss.* none.
*Seeds* 4.

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CHA'RA. Male. *Calyx* none: *Anther* at the base of the germen.
Fem. *Cal.* 4-leaved: *Summits* 5-cleft: *Seed* 1.

CH. Prickles on the stem egg-shaped. tomento'sa.
*H. ox.* xv. 4. 9–*Pluk.* 29. 4.
*Plant* always flesh-coloured when alive, but when dry, ash-coloured. *Stem* twisted. LINN. Brittle and gritty in the mouth. *Root* fibrous.

*Brittle Stonewort.* Ditches and pools. Peat ditches in Lancashire and Westmoreland, common. [In the rivulet that runs from Malham Tarn before it sinks into the ground. Mr. Wood.] A. June—Oct.

vulga'ris. CH. Stems without prickles: leaves toothed on the inner side.

*E. bot.* 336–*Hedw. th.* 32. 33.–*C. B. pr.* 25; *and th.* 251–*Park.* 1201. 10–*J. B.* iii. 731. 2.

*Stem* thread-shaped, but little branched, 6 to 9 inches long, flexible. *Leaves* thread-shaped, tapering, but just thinner than the stem; in whirls, expanding, mostly as long as the joints of the stem, jointed; the knots with prickles and often fructifications on the inside. *Flowers* either hermaphrodite or male, or female, on the same, or on different plants; sitting; both tawny and white in the same plant, on the inner side of the leaves towards their base, 2 or 3 on a leaf, numerous on the upper whirls, distinct. *Cal. leaves* bristle-shaped, the 2 outer nearly twice as long. *Anther* projecting as it were from out of the calyx; evidently adhering to the base of the germen, and separable with it; unchanged in its form and none burst, in numbers which I examined, from whence some might be induced to suspect it to be rather a nectary. *Seed-vessel* tapering and greenish towards the end, which is crowned with 5 teeth, mostly shorter, but sometimes longer than the calyx. *Seeds* very numerous, and very minute, yellowish or white. In one male plant I found the calyx the same as in the hermaphrodite flowers. St.—*Plant* green when fresh, and extremely fœtid; glaucous when dry, and very brittle. *Leaves* sometimes 10 or 12 in a whirl. Woodward.—*Leaves* from 6 to 12 in a whirl. The teeth or prickles on the upper or inner side of the leaves are near the base, and more numerous on the upper than on the lower leaves. The stem and leaves are studded, not uniformly incrusted, with a hard whitish, gritty substance, which gives them, when fresh and magnified, some resemblance to the scaliness of a snake. The stems are much disposed to twist spirally, and are very brittle when dry.

*Common Stonewort. Stinking Water Horse-tail.* Ditches and pools. [Marl pit near Stafford. St.] A. July, Aug.

Var. 1. Smaller. Huds.

*Stems* and *leaves* very slender. *Seeds* (anthers and germens) small, brown, shining, lying naked on the joints of the leaves. *R. Syn.*—From this description I suspect it to be rather *C. flexilis.* St.

Sir P. Carteret's fish-ponds in Jersey. In a gutter in Peckham fields; not in the great ditches. *R. Syn.*

CH. Prickles on the stem, hair-like, in clusters. his'pida.

*E. bot.* 463.–*Fl. dan.* 154–*Pluk.* 193. 6.

Pale green when fresh. *Prickles* often bent down. LINN.—*Plant* covered with a stony crust, whence its grittiness between the teeth. ST.—Plant glaucous. *Stem* twisted spirally, its lower part and branches and lower leaves frequently naked; upper part thick set with prickles. *Leaves* 8 to 10 in a whirl. *Prickles* in bundles, at short distances on the upper side of the leaves, resembling half whirls. Not so fœtid as the C. vulgaris. Mr. WOODW.—Whole *plant* with a strong scent of garlick, green. *Stem* branched. *Leaves* 8 or 10 in a whirl. *Germen* egg-shaped, of a dull pale yellow. *Summits* dirty green. *Anther* orange-coloured.

*Prickly Stonewort.* Ditches and pools, in Yorkshire, Lancashire, and Westmoreland. [Turf bogs, Ellingham, Norfolk. Mr. WOODW.—At the bottom of a spring in a meadow near Gayton, Staffordshire. ST.] [June—Oct.

CH. Neither prickly, nor incrusted: leaves mostly forked. flex'ilis.

*Schmidel* 14.

*Stems* 1 to 2 feet long, floating under water, but near the surface, covered not as the rest of this genus, with a crust, but with a thin green rind. *Leaves* in whirls, which, towards the root, are 2 inches and upwards from each other, towards the end from 1 to ½ an inch; of the same structure with the stem, when fully grown from 1 to 1½ inch long. *Fructifications* naked, on the upper whirls; on the divided leaves at the fork, and on the simple leaves about the same distance from the base. *Cal.* none, not even prickles as in other species. *Anther* always single, sometimes solitary, but mostly with 2 germens: generally between them, but where only 1 germen, sometimes on one or the other side, or above it, never below, as in the other species; when first appearing, white or straw-coloured, as it advances pale yellow, becoming of a wax-like substance, when ripe of a reddish saffron colour, and at last brown, for the greater part hollow within, not divided into cells, but containing some pulp intermixed with very tender fibres or membranes, and some mealy grains of a saffron colour; never opening spontaneously; gradually shrivelling, rotting and wasting away. *Seed-vessel* oval, somewhat tapering towards the point; the coat thinish, composed as it were of 5 segments rolled spirally round and terminating in the 5 summits. *Nucleus* covered with a very thin membrane, not marked with spiral lines, full within of very white transparent globules, some spherical, others a little compressed, destructible by pressure, not wrinkled; whether to be considered as seeds I do not determine. SCHMID.—The anther accords with that of Ophrys and Orchis. ST.

*Smooth Stonewort.* Ponds, ditches, and bogs. Ponds about Henley, not far from Ipswich. In a bog where the stinking spa empties itself near Knaresborough. *R. Syn.*—Salt water ditches near Hornsey. HUDS.—Loch Lomond. PARSONS.—Hill-Loch, on Crag Chaillech Breadalbane, and at Comrie 4 miles from Crief. Mr. STUART.—[In the third stew from the house at Edgbaston.] [A. June—Oct.

A'PHANES. *Cal.* tubular; rim flat, 4 or 8-cleft: *Bloss.* none: *Seed* 1; egg-shaped but tapering to a point.

arven'sis. APH. Leaves 3-lobed;—lobes with 2 or 3 clefts.

*Fl. dan.* 973–*Col. ecphr.* 146–*Pet.* 9. 12.–*H. ox.* ii. 20. *row* 3, 4–*Lob. adv.* 324–*Ger. em.* 1594–*J. B.* iii. *p.* 2. 74. 3.–*Park.* 449.

The structure of the *flower* in all respects the same with that of *Alchemilla*. *Cal.* 8-cleft; the *alternate segments* exceedingly small, but always present. *Seed* 1, never 2; in those which I examined. LEERS.—*Stems* trailing, leafy. Leaves hairy. *Flowers* axillary; small, greenish white.

*Parsleypiert.* Corn-fields, and dry gravelly lands. A. May—Aug.

SALICOR'NIA. *Cal.* rather bellying, entire: *Stam.* 1. (or 2:) *Seed* 1.

herba'cea. S. Herbaceous, wide spreading: joints flatted at the top, and notched.

*Fl. dan.* 303–*Blackw.* 598–*Bast.* ii. 10. 3–*Matth.* 465–*Dod.* 82. 1–*Lob. adv.* 170. 2—*Ger. em.* 535. 1–*Pet.* 9. 3.–*E. bot.* 415–*S. annua, and* 4–*H. ox,* v. 33. 8–*J. B.* iii. 705. 2. *n.* 1. 11. 111–*Park.* 280, 4–*Barr.* 192.

Widely spreading; hardly 9 inches long. LINN.—*Spike* jointed. *Flowers* near together, in the clefts of the joint, 3 on each side. BAST.

*Salicornia europæa herbacea.* HUDS.—*Jointed Glasswort. Saltwort. Sea-grass. Marsh Samphire.* Sea shore, common. A. Aug.—Sept.*

* The young plant is herbaceous, the older one somewhat shrub-like, in which state it has been considered as the S. *fruticosa* of Linnæus, but the S. fruticosa is not a native of Britain. Dr. GOODENOUGH and Mr. WOODWARD.—From the ashes of this plant, a fossil alkaly is obtained, which

HIPPU'RIS. *Cal.* none: *Summit* simple: *Seed* 1.

H. Leaves awl-shaped; 8 in a whirl. vulga'ris.

*Dicks. h. s.–Curt.* 287–*E. bot.* 763–*Giseke* 32–*Fl. dan.* 87–*Dod.* 113. 2–*Lob. ic.* i. 792. 2–*J. B.* iii. 732–*Ger.* 957. 6, *misprinted* 953–*C. B. th.* 243. 4–*Park.* 1200. 4.

*Leaves* narrow: growing in whirls round the joints, 12 or more at each joint. *Flowers* equal in number to the leaves. *Stem* straight, jointed. The flower of this plant is found at the base of each leaf, and is as simple as can be conceived, there being neither calyx nor blossom; and only 1 stamen, 1 pistil, and 1 seed. LINN.

*Common Mares-tail. Paddowpipe.* Muddy ponds and ditches; not common. [Lochend, and Duddeston Loch, near Edinb. Mr. BROWN.—Lake in Torworth Park, Glocestershire. Mr. BAKER.—Almost every where in muddy ditches in the N. W. of Lancashire. Mr. HALL.—About a mile from Stafford, in ditches adjoining the foot-road to Aston.] [P. May.*

## DIGYNIA.

CALLI'TRICHE. *Cal.* none: *Petals* 2: *Seeds* 4; naked, with a membranaceous border on one side.

CAL. Upper leaves oval; not notched at the end. ver'na.

*E. bot.* 722.

*Stems* feeble, numerous. *Bloss.* small, white. *Upper leaves* growing near together in form of a star; lower ones in pairs. It flowers in the spring.

*Vernal Stargrass. Water Starwort. Water Fennel. Star-headed Water Chickweed.* Ditches, ponds, and very slow streams, frequent. Apr.—Aug.

Var. 2. Leaves oblong. Flowers either male, female, or hermaphrodite.

*Ger.* 830. 3–*Park.* 1258. 10—*Pet.* 6. 3.

*Barren* and *fertile* flowers frequently opposite to each other, on different sides of the stem, in the bosom of the corresponding leaves. Mr. WOOD.—All the leaves sitting. *Lower leaves* spear-shaped, opposite, distant. *Upper leaves* slightly

which is in great request for making soap and glass. It is chiefly made on the coast of the Mediterranean, and is called Soda. The green plant steeped in salted vinegar, makes a pickle very little inferior to Samphire. The whole plant has a saltish taste, and is greedily devoured by cattle.

* It is a very weak astringent. Goats will eat it, but cows, sheep, horses, and swine refuse it.

notched at the end. *Fertile flowers* in the bosom of the lower leaves; *barren* ones amongst the upper leaves, which are crowded together. *Petals* thick, flat, bowed inwards, at the edge like a crescent. When magnified they appear to be a collection of air-vessels, and are undoubtedly intended to float the flower.

In ditches and still waters, frequent. A. Apr.—Aug.

Var. 3. All the leaves roundish, on leaf-stalks, very entire; in pairs, except the lower ones. HALL. 553.

*Fl. dan.* 129–*J. B.* iii. 786. 2–*Park.* 1263. 2–*Fructification. Vaill.* 32. 10.

Var. 4. Leaves egg-shaped. Stamens and pistils in various dispositions. SCOP.

*Col. ecphr.* 316.

In places where water, that stood during the winter, has been dried up.

autumna'lis. CAL. All the leaves strap-shaped, cloven at the end.
Flowers hermaphrodite.

*Pet.* 6. 4–*Gmel.* iii. 1. 2–*bad.*

*Leaves* oblong. *Stamens* and *Pistils* in different plants. SCOP. *Bloss.* yellowish white.

*Autumnal Stargrass.* Ditches and still waters, frequent. A. Sept.*

## TETRAGYNIA.

ZANNICHEL'LIA. Flowers male and female on the same plant; without petals.

M. *Cal.* none.

F. *Cal.* 1 leaf, bell-shaped: *Seeds* about 4.

palus'tris. ZANNICHELLIA.

Var. 1. Anther 2-celled: summits scolloped. MICH.

*Mill. ill–Fl. dan.* 97–*Pluk.* 102. 7. *Pet.* 6. 2–*Mich.* 34. 2.

*Seeds* either entire or toothed on the back. HUDS. RELHAN. The uncommon breadth of the *summits* is the most remarkable peculiarity in this plant; and whether they float upon the surface of the water, or are sunk beneath it, they are equally calculated to receive the pollen, from the anthers which stand above them. ST.—The habit of a Potamogeton; slender and much branched. *Leaves* thread-shaped, grass-like, 2, 3, or 4 out of the same sheathing stipulæ. *Seed-coats* sitting, 3 or 4, placed crosswise in the bosom of the leaves; somewhat compressed, with a toothed

* It sometimes grows so thickly matted together as to allow one to walk upon it without sinking. Dr. Sibthorpe assures us, that the C. verna, cultivated in the Oxford garden, changed into C. autumnalis.

ridge on each side, and an awl-shaped termination, giving them some resemblance to a bird's claw. Mr. WOODWARD.

*Horned Lake-weed* or *Pond-weed.* Ditches and stagnant waters. [Ditches near Bungay, Suffolk. Mr. WOODWARD.] A. June, July.

Var. 2. Anther 4-celled: summits entire. MICH.

*Mich.* 34. 1.

*Leaves* strap-shaped, flat, very entire, smooth, embracing the stem, 2 or 3 at each joint. *Flowers* from the bosom of the leaves, throughout the whole length of the stem, opposite, one with stamens on one side, and one with pistils on the other. *Female flowers* on the upper part of the stem near the male flower, on the lower part of the stem opposite to it. *Pistils* sometimes 5. *Summits* membranaceous, target-shaped, concave, flat, expanding outwards, 6 or 8 times as broad as the styles. *Seed-vessel* a dry berry, oblong, compressed, with 2 keels, tapering to a point. ST.

Slow brooks and stagnant pools, not uncommon. Sept.

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## CLASS II.

# DIANDRIA.

## MONOGYNIA.

[Schænus albus. Schænus mariscus. Lepidium ruderale. Fraxinus excelsior.]

(1) *Bloss.* 1 *regular petal*; *beneath.*

LIGUS'TRUM. *Bloss.* 4-cleft. *Berry* 4-seeded.

(2) *Bloss. irregular. Seeds in a capsule.*

VERONI'CA. *Bloss.* border with 4 divisions, lower segment the narrowest. *Caps.* inversely heart-shaped.

PINGUI'CULA. *Bloss.* gaping, ending in a spur. *Cal.* 5-cleft.

UTRICULA'RIA. *Bloss.* gaping, ending in a spur. *Cal.* 2 leaves.

(3) *Bloss. irregular. Seeds naked.*

LY'COPUS. *Bloss.* nearly regular. *Stamens* wide apart.

VERBE'NA. (See Didynamia Gymnospermia.)

SAL'VIA. *Bloss.* gaping. *Filaments* fixed across a pedicle. [Salicornia herbacea.]

(4) *Flowers superiour.*

CIRCÆ'A. *Cal.* 2-leaves. *Bloss.* 2 petals inversely heart-shaped.

[Salix hermaphroditica.]

(5) *Stamens on the Pistil. The* ORCHIS *tribe.*

OR'CHIS. *Nectary* ending in a spur.

SATYR'IUM. *Nectary* ending in a purse.

O'PHRYS. *Nectary* somewhat keeled.

MALAX'IS. *Nectary* 1 leaf, heart-shaped, binding round and inclosing the stamen and pistil.

SERA'PIAS. *Nectary* egg-shaped; bulging on the under side.

CYPRIPE'DIUM. *Nectary* inflated, bellying.

(6) *Stamens and Pistils in separate flowers on the same plant.*

LEM'NA. M. *Calyx* 1 leaf. *Bloss.* none.
F. *Capsule* 1-celled.

(7) *Stam. and Pist. in separate flowers on different plants.*

SA'LIX. M. *Cal.* Scale of a catkin. *Bloss.* none.
F. *Summits* 2. *Caps.* 2-valved. *Seeds* downy.

(8) *Flowers, either Male, Female, or Hermaphrodite.*

FRAX'INUS. *Calyx* none; or with 4 divisions. *Bloss.* none; or of 4 petals. *Seed* 1; spear-shaped.

## DIGYNIA.

ANTHOXAN'THUM. *Calyx*, husk with 1 flower; oblong. *Bloss.* 2 husks; awned.

[Buffonia. Serapias. Carex atrata.]

## MONOGYNIA.

LIGUS'TRUM. *Bloss.* 4-cleft: *berry* with 2 cells, 2 seeds in each cell.

vulga're. L. Leaves egg-shaped, blunt: panicle with 3 divisions.

*Curt.* 300.–*E. bot.* 764–*Fl. dan.* 1141–*Kniph.* 5–*Mill.* 162. 2. *Math.* 170–*Blackw.* 140–*Ger.* 1208–*J. B.* i. 528. 2–*Fuchs.* 480–*Tragus*, 1005–*Ger. em.* 1394–*Swert.* ii. 38. 4.

*Leaves* sometimes growing by threes, and sometimes enlarged at the base. *Berries* egg-shaped, continuing through the winter. SCOP. Blossoms white; segments thick and fleshy. *Stamens* generally 2, sometimes 3 or 4, in each flower. *Leaves* egg-spear-

shaped, very entire; growing in opposite pairs. *Fruit-stalks* a little woolly when magnified; every other part of the plant perfectly smooth. *Leaves* sometimes variegated with white. Berries black.

*Privet. Prim. Print.* Hedges in gravelly soils. [Rocks of Dunnerholme, and above Cartmel Wells, in the most exposed situation to the western sea. Mr. ATKINSON.] S. June. July.*

## CIRCÆ'A. *Bloss.* 2 petals: *cal.* 2-leaved, superiour.

C. lutetia'na. Stem upright: bunches several: leaves egg-shaped: somewhat serrated; rough with hair. LINN. Leaves egg-spear-shaped, hairy, somewhat serrated. GMEL.

*Curt.* 202–*Kniph.* 10–*H. ox.* v. 34. *row.* 3. 1–*Lob. ic.* 266. 2–*Ger.* 280–*Lob. obs.* 137. 1–*Ger. em.* 351. 1–*Park.* 351 –*Fl. dan.* 210 *and* 256.

*Stem* a foot and half high; upright. *Leaves* somewhat serrated, opake. *Bunches* terminating and lateral. *Cal.* much thicker and of a coarser texture than the blossom, and not of the same colour. LINN. *Calyx*, hairs hooked and tapering to a fine point. GRIFFITH. Plant smooth, or woolly, or rough with hair, sometimes red at the joints. *Leaves* upper, short; lower on long leaf-stalks. *Cup*, leaves reflected, egg-spear-shaped; coloured. *Petals* reddish white, alternating with the leaves of the cup. *Filaments* thickest towards the top; white. *Anthers* white. *Germen* hairy, egg-shaped but compressed; placed under, and at a small distance from, the cup. *Style* thickest upwards, with a double green gland at its base. *Summit* a fine pink colour. *Caps.* set with white hairs, hooked at the end. *Seeds* 2. *Little fruit-stalks* after flowering, pointing downwards.

*Inchanters Nightshade. Common Enchanters-wort.* Woods; moist hedge bottoms, in shady lanes, not uncommon.

P. June. July. Aug.

C. alpi'na. Stem prostrate, supporting a single bunch of flowers: Leaves heart-shaped. LINN. Stem very much branched, depressed: leaves heart-shaped, toothed, pale. GMEL. Leaves heart-shaped, pointed.

*H. ox.* v. 34. *row* 3. 1.

* The berries are filled with a dry, spongy, violet pulp, from which a rose-coloured pigment may be prepared. SCOP. It is planted to make hedges; it grows fast, and may be raised from cuttings. Mr. SOUTHALL. With the addition of allum, the berries dye wool and silk of a good and durable green: for this purpose they must be gathered as soon as they are ripe—the leaves are bitter and slightly astringent. Oxen, goats, and sheep eat it, horses refuse it. The insects observed to feed upon this plant are the Sphinx Ligustri and Phalæna Syringaria.

*Stem* prostrate, scarcely a finger's length. *Leaves* heart-shaped, toothed, shining. Different from the *C. Lutetiana*, but nearly allied to it. LINN.—Only 3 inches high when wild. *Calyx*, hairs granulated, and ending in a small globule. GRIFFITH.—The general opinion that this and the preceding are distinct species, is confirmed by HALLER, who tells us, that the C. alpina when cultivated in a garden does not become the C. lutetiana. But it has not proved an easy task to point out any certain and invariable differences, as appears by the many alterations made by Linnè and others in their specific characters. The calyx and the joints being coloured or not; the leaves being hairy or smooth, opake or pellucid, toothed or tooth-serrated; the panicle being one, or more than one; the plant being simple or branched, upright, or depressed, are circumstances which exist more or less in different specimens of both. Scopoli has justly observed, that the figure of the leaves affords the only specific distinction. In C. lutetiana the leaves are egg-spear-shaped; in C. alpina, heart-shaped. The latter is also a paler, a more delicate, and a smaller plant, not more than from 5 to 10 inches high, whilst the former, though sometimes nearly as small and as delicate, is generally half a yard high, or more.

*Inchanters Nightshade. Mountain Enchanters-wort.* [Rocky Woods in Lancashire, Westmoreland, and Cumberland. WOODW. About Leeds. Mr. WOOD. At a small village called Storth, near Milnthorp, Westmoreland. Mr. GOUGH.—West side of Bala Lake, half a mile south of Llanychil. Mr. GRIFFITH.
P. July. Aug.

## VERONI'CA. *Bloss.* border 4-cleft; the lower segment narrowest: *caps.* 2-celled; notched at the end.

### (1) *Flowers in spikes.*

spica'ta. V. Spike terminating; leaves opposite, blunt, scolloped: stem ascending; undivided. LINN. Spike conical: leaves spear-shaped: stamens much longer than the blossom.

*E. bot.* 2–*Fl. dan.* 52–*Kniph.* 4–*Clus.* i. 347. 3–*Lob. obs.* 250. 3–*Ger. em.* 627. 4–*Vaill.* 33. 4–*J. B.* iii. 282; 3 *and* 4–*H. ox.* iii. 22. 4.

*Spikes* sometimes more than 1 on a root. REICH.—*Leaves* spear-shaped. SCOP.–narrower in proportion to their length, and more pointed than in the next species. *Stamens* much longer than the blossom. *Bloss.* blue. *Anthers* blue.

*Upright spiked male Speed-well. Smallest Fluellin.* Mountainous moist pastures. [Cavenham Heath, near Bury, Suffolk. WOODW.—About Penzance.] P. June.

V. Spikes terminating: leaves opposite, bluntly serrated, rough: stem upright. LINN. Spikes cylindrical: leaves spear-egg-shaped. hy'brida.

*E. bot.* 673–*Ray* 11. *good.*

*Stems* simple, ascending, about a span long. The terminating spike oblong. *Leaves* oval, rather blunt, downy, green on both sides; serratures large, blunt. *Leaf-stalks* bordered. LINN.—*Bloss.* blue, the tubular part hairy within. *Leaves* thick and fleshy, rough, with short white hairs, which grow out of small prominent glands.

*Welsh Speedwell. Bugle-leaved Speedwell.* On Craig Wreiddin, Montgom. [Umpherhead, a steep rock at Cartmel Wells, plentiful. Mr. HALL.] P. July.

V. Spike terminating: leaves heart-shaped, sitting: floral-leaves spear-shaped, longer than the flowers. arven'sis.

*Curt.* 133–*E. bot.* 734–*Col. phyt.* 8–*J. B.* iii. 367. 2–*Ger.* 489. 8–*Ger. em.* 613. 7–*Park.* 762. 4.

This plant has hitherto stood in the 3d subdivision of the species, next after the V. agrestis, with the following character by Linnæus: "Flowers solitary: leaves heart-shaped, jagged: "longer than the fruit-stalk,"–but it bears its flowers in such a spike-like form, that many Botanists have been deceived in their expectations of finding it in the 1st subdivision, and after much trouble have at length determined it to be the V. spicata, though not quite agreeing with the character. It must be allowed that the term spike is often used by Linnæus himself with a greater latitude than its strict definition permits, and very often with less propriety than in the present instance.

Leaves hairy; marked with 3 longitudinal grooves. Flowers about a month later than the V. agrestis. Mr. DICKENSON.

Plant mostly upright, stiff and dry in its habit. Root-leaves, and sometimes the lower stem-leaves on leaf-stalks. *Bloss.* pale blue.

*Wall Speedwell. Chickweed.* On old walls; amongst rubbish: and fallow fields. A. May.

V. Spike terminating: flowers solitary: leaves with finger-like divisions: fruit-stalks shorter than the calyx. ver'na.

*E. bot.* 25–*Rose.* 2. 1–*Fl. dan.* 252.

*Stem.* stiff, upright. LINN.–*Leaves* cut into winged clefts; in one specimen gathered near Bury, spear-shaped, toothed, 7 lines long, though the whole plant only 2 inches high. WOODW.–*Cal.* much longer than the blossom, and deeply divided into 4

spear-shaped, blunt, unequal segments. *Bloss.* blue; green at the base. *Floral-leaves* spear-shaped, blunt. *Fruit-stalks* very short: indeed so short as to give the assemblage of flowers the appearance of a spike, and justifies our removal of it from the 3d subdivision of the species. In its habit it has some resemblance to the V. arvensis, but is readily distinguished from that by its finger-like, or rather wing-cleft leaves.

*Vernal Speedwell.* Dry, barren soil; old walls and rocks, [near Bury, in the most dry and drying sand; the plant is frequently nearly buried in it. WOODWARD.] Discovered by Sir J. Cullum. A. April, May.

officina'lis. V. Spikes on lateral fruit-stalks: leaves opposite: stem trailing.

*E. bot.* 765–*Ludw.* 100–*Curt.* 198–*Kniph.* 4–*Fl. dan.* 248–*Woodw.* 219–*Ger.* 502. 1–*Riv.* 93. 2. *Veronica*–*J. B.* iii. 282. 1–*Blackw.* 143–*Fuchs.* 166–*Trag.* 207–*J. B.* iii. 282. 2–*Math.* 693–*Dod.* 40. 3–*Lob. obs.* 250. 2–*Ger. em.* 626. 2–*Park.* 550. 2–*H. ox.* iii. 22. 7.

*Little fruit-stalks* shorter than the floral leaves. *Tube* of the bloss. about half as long as the cup; white. *Border* pale purple; the *broadest* segment marked with 6 or 7 deeper purple streaks: the narrowest segment with 3, and each of the lateral segments with 1. *Leaves* egg-shaped, serrated; hairy underneath, and at the edges. *Floral-leaves* strap-shaped. Some of the *Fruit-stalks* are so near the end of the stem that at first view they appear terminating, but upon more accurate examination we find one or more pairs of leaves beyond them. *Bloss.* purplish blue.

*Common Speedwell. Male Speedwell, Fluellin.* Barren ground; heaths. [St. Vincent's Rocks.] P. May—Aug.*

(2) *Flowers in a bunch-like corymbus.*

alpi'na. V. Corymbus terminating: leaves opposite: cups rough with hair.

*E. bot.* 484–*Hall. hist.* 15. 2–*Fl. lapp.* 9. 4–*Fl. dan.* 16.

Branchless. *Leaves* all sitting; lower leaves elliptical, middle leaves egg-shaped, upper leaves spear-shaped, and even strap-shaped and alternate; the larger leaves with 1 or 2 teeth. LINN.–Four or 5 inches high. *Spike* short, of 8 to 12 flowers, with an intermixture of floral-leaves. *Bloss.* small, not a fine

* The leaves have a slight degree of astringency and bitterness. An infusion of them is recommended by Hoffman, as a substitute for tea, but it is more astringent and less grateful. It is eaten by cows, sheep, goats and horses. Swine refuse it.

blue. HALLER. – Flowers forming a compact head. Sometimes 4 or 5 teeth on the leaves.

On Ben Nevis, and on mountains near Garway Moor, ascertained by Mr. DICKSON.—On Ben Bourdi, and Lochain y Gair near Invercauld. Mr. BROWN. P. Aug.

V. Bunch terminating, somewhat like a corymbus: leaves opposite, nearly egg-shaped, smoothish, slightly scolloped: fruit-stalks longer than the floral-leaves: stems and cups woolly. saxa'tilis.

*Fl. dan.* 342–*Hall. hist.* 16. 1–*Jacq. coll.* 4. 5–*H. ox.* iii. 22. 5–*Clus.* i. 347. 1.–*Park* 551. 7.

*Leaves* smooth, and almost glossy; serratures wide asunder. *Flowers* mostly terminating. *Bloss.* blue-red, with purple lines: lower segment paler, very small, not veined. *Fruit* egg-shaped, compressed; not notched at the end; valves 4, acute, opening with a jerk. HALLER.

On rocks; Ben Lawers. Found by Mr. DICKSON. S. June, July.

V. Bunch terminating, somewhat spike-like: leaves egg-shaped, smooth, scolloped. LINN. 3-fibred. CURT. Stamens hardly longer than the blossom. serpyllifo'lia.

*Curt. Fl. dan.* 492–*Walc.–Dod.* 41. 1–*Lob. obs.* 250. 4–*Ger. em.* 627. 2–*J. B.* iii. 285. 1–*Riv.* 99. *Veronica minima repens–Pluk.* 233. 4–*Ger.* 503. 3.

The difference betwixt this species and the V. spicata, though sufficiently obvious when the plants are compared, is not so from a comparison of the specific characters as given by Linnæus; but the stamens in the V. spicata being much longer than the blossom, whilst in the serpyllifolia they are generally shorter, the distinction of the two species can no longer occasion any difficulty; and if the flowering be past, the 3-fibred leaves of the latter, mentioned by Mr. Curtis, will still distinguish them. *Stems* cylindrical, ascending; several rising from the same root, but frequently each has its own particular root; and if branched it is only so near the root: bearing from 5 to 7 pair of leaves; mostly opposite; the upper ones intermixed with the flowers. *Leaves* egg-shaped, sitting, smooth, very slightly scolloped. Upper *floral-leaves* alternate, spear-shaped, twice as long as the fruit-stalks. *Flowers* on short fruit-stalks, one rising out of the bosom of each floral-leaf, and forming altogether a long, leafy, spike-like bunch, terminating. *Bloss.* pale blue; upper segment with 5 or 8 purple lines, lateral segments with 3; smallest segment white. *S. Vess.* fringed with hairs round the edge.

*Smooth Speedwell. Pauls Betony.* Meadows and pastures, not uncommon. P. May.

humifu'sa. V. Bunch terminating: leaves heart-shaped but roundish, slightly scolloped: stems creeping. DICKS.

Plant entirely prostrate; stems a palm in length, or more, branched, creeping, striking root. Leaves roughish, near together; lower ones on leaf-stalks; opposite; often by threes or fours: upper leaves mostly sitting, and alternate. Bunch terminating, short. Flowers few, crowded together, on short fruit-stalks; of a pleasant blue. DICKSON.—About 3 inches high. Flowers 8 or 10. LIGHTF.

On very high mountains under wet shading rocks. Cultivated in a garden for three years, did not assume the characters of the V. serpyllifolia. DICKS.—On the mountains of Badenoch and Lochaber. LIGHTF.

Beccabun'ga. V. Bunches lateral: leaves egg-shaped, flat: stem creeping.

*E. bot.* 655–*Ludw.* 30–*Curt.*–*Kniph.* 9–*Sheldr.* (*Brookl.*) –*Woodw.* 20–*Riv.* 100–*Beccabunga*–*Walç.*–*Fuch.* 725–*Trag.* 188–*Blackw.* 48. 1 *and* 2–*Fl. dan.* 511–*Dod.* 593. 1 –*Lob. obs.* 248. 3–*Ger. em.* 620. 1–*Park.* 1236. 1–*H. ox.* iii. 24. 24–*Ger.* 496. 1.

Whole plant smooth and succulent. *Leaves* serrated with glands. *Germen* sitting on a thick yellowish green glandular substance. *Bloss.* blue.

*Brooklime.* Slow shallow streams, and near springs that seldom freeze. P. June.*

Anagal'lis. V. Bunches lateral: leaves spear-shaped, serrated: stem upright.

*Fl. dan.* 903–*Curt.* 332–*E. bot.* 784–*Ger.* 496. 3–*Pet.* 51. 12–*Ger.* 496. 2–*Ger. em.* 620. 2–*Riv.* 100–*J. B.* iii. 791. 1–*Blackw.* 48. 3–*H. ox.* iii. 24. 25.

*Leaves* opposite, sitting. Bunches of flowers ascending from the bosom of the leaves. *Bloss.* pale purplish blue.

Slow streams, and shallow ponds. [S. side of King's Park, Edinburgh. Mr. BROWN.—Ditches about Tamworth. A. July, Aug.

Var. 1. *Bloss.* of a beautiful pink.

[Wide ditches on the sides of the road from Gloucester to Tewksbury.]

* The leaves are mild and succulent, and are eaten in sallads early in the spring. Cows, goats, and horses eat it, swine refuse it. This, and some other species of Veronica, afford nourishment to the Papilio cinxia, Curculio, and Chrysomela Beccabungæ.

V. Bunches lateral, thinly set with flowers, wide spread- scutella'ta.
ing, alternate: little fruit-stalks pendant: leaves very entire, strap-shaped.

*Curt.* 333–*E. bot.* 782–*Kniph.* 10–*Riv.* 96, *V. pal. angustifol.* –*Fl. dan.* 209–*J. B.* iii. 791. 2–*H. ox.* iii. 24. 27.

*Bunches* slender, limber, wide-spreading. LINN.—Plant either smooth or woolly. *Stem* often trailing, and sending out roots from the joints. *Leaves* nearly horizontal, spear-shaped, but narrow; set with 2 or 3 pair of very minute teeth, mostly on the lower leaves. *Fruit-stalk* zigzag. *Bloss.* white, or purplish.

*Narrow-leaved Speedwell.* Poor swampy soil. [Boggy meadows near Bungay; and in the Cambridgeshire Fens.—WOODW.—Broadmoor near Hales Owen. Ditches about Tamworth.] P. June—Aug.

V. Bunches lateral, of few flowers: cup rough with hair: monta'na.
leaves wrinkled, egg-shaped, scolloped, on leaf-stalks: stem feeble.

*Jacq. austr.* 109–*Curt.* 220–*E. bot.* 766–*Col. ecphr.* 288–*Pet.* 51. 4–*H. ox.* iii. 23. 15–*Riv.* 93–*Park.* 589. 3.

*Caps.* round and flat, notched at the top and the bottom. LINN.—In its general habit this plant very much resembles the *V.* chamœdrys, but if the sitting leaves of the latter, and the leaf-stalks of the former should not be thought sufficient to distinguish them, it may be further observed, that in the V. montana the leaves are reddish underneath, heart-shaped, but blunt; the stem and leaf-stalks hairy, and the flowers smaller. *Bloss.* purplish, streaked. Its usual stations in moist woods and other shady places, do not well accord with its trivial name montana.

*Mountain Madwort. Stalked Speedwell.* [Woods at west end of Powickham, Worcestershire. Dr. STOKES.—Kirkstal Abbey, Leeds. Mr. AIKIN.—Shortwood, Pucklechurch, Gloucestershire, plentiful. SWAYNE.—Woods near Roslin. Mr. BROWN.] P. May, June.

V. Bunches lateral: leaves egg-shaped, sitting, wrinkled, Chamœ'drys.
toothed: stem with 2 opposite rows of hairs.

*Curt.*–*Kniph.* 11–*Fuch.* 872–*Trag.* 203–*J. B.* iii. 286. 1–*Fl. dan.* 448–*Walc.*–*Ger.* 530. 4–*Riv.* 94—*V. prat. latif.* –*Clus.* i. 382. 1–*Ger. em.* 657. 3–*Lobel. obs.* 259. 4–*H. ox.* iii. 32. 12.

Bunches frequently opposite. *Bloss.* a fine blue.

, *Wild Germander. Germander Speedwell.* Pastures, sides of hedges. P. May,*

(3) *Fruit-stalks with* 1 *flower.*

agres'tis. V. Flowers solitary: leaves heart-shaped, on leaf-stalks, shorter than the fruit-stalks.

*Curt.*–*E. bot.* 783–*Fl. dan.* 449–*Riv.* 99. *V. fol. chamæd.*–*Walch.*–*Fuch.* 22–*J. B.* iii. 367. 1–*H. ox.* iii. 24. 22–*Dod.* 31. 4–*Ger. em.* 616. 1–*Park.* 762. 4.

*Bloss.* blue; sometimes white. LINN.—Flowers early in April, often in March. *Bloss.* with some blue and some white segments. *Seeds* from 4 to 8 in each cell. Mr. DICKENSON.—Stems feeble, trailing. Leaves serrated, serratures blunt; upper leaves nearly egg-shaped.

*Germander. Chickweed. Procumbent Speedwell.* Pastures and ploughed Fields. A. April,

hederæfo'lia. V. Flowers solitary: leaves heart-shaped, flat, 5-lobed.

*Curt.* 110–*E. bot.* 784–*Walc.*–*Fl. dan.* 428–*Riv.* 99. *V. fol. hederæ*–*Dod.* 31. 1–*Lob. obs.* 247. 1–*Ger. em.* 616. 3–*Park.* 762. 3–*J. B.* iii. 368. 2–*H. ox.* iii. 24. 20.

*Seeds* with a dimple at the top; 2 in each cell of the capsule. LINN.—Wide-spreading, succulent. *Stem* a hollow cylinder, surrounding a strong elastic, thread-like fibre, as in the Alsine media. *Leaves,* lobes from 3 to 6, though mostly 5; very unequal, the middle segment by far the broadest. One fruit-stalk from the bosom of each leaf-stalk. *S. Vess.* like 2 united globes rather than heart-shaped. *Calyx* fringed with long white hairs. *Bloss.* pale blue.

*Small Henbit. Ivy Chickweed. Ivy-leaved Speedwell.* Hedge banks; ploughed fields. A. April, May.

triphy'llos. V. Flowers solitary: leaves with finger-like divisions: fruit-stalks longer than the calyx.

*Curt.* 68–*Fl. dan.* 627–*E. bot.* 26–*Riv.* 96. *V. fol. rutæ.*–*Kniph.* 11–*J. B.* iii. 368. 1–*Lob. ic.* 464–*Ger. em.* 612. 5–*Park.* 1260. 6–*H. ox.* iii. 24. 23.

*Stem.* sometimes unbranched. *Branches* from the bottom of the stem or near it, and rising to the same height as the stem.

* The leaves are a better substitute for tea than those of the V. officinalis, being more grateful and less astringent. Cows and goats eat it, sheep, horses, and swine refuse it.

*Leafits* in threes and fives. *Root-leaves* undivided, rarely found; well represented in J. B.'s figure. Lower *stem-leaves* heart-shaped, jagged. *Bloss.* blue. *Capsules* large; deeply notched. Woodw.—Although the leaves just above the root sometimes resemble those of the V. hederæfolia, the deep finger-like divisions of the upper leaves, and the want of leaf-stalks, preclude all possibility of their being mistaken.

*Right*, or *upright Chickweed. Trifid Speedwell.* Sandy fields. [Near Cockley Cley, Norfolk, and Bury, Suffolk. Mr. Woodw.] A. April, May.

## PINGUI'CULA. *Bloss.* gaping, ending in a spur: *Cal.* 2-lipped, 5-cleft: *Caps.* 1 cell.

P. Nectary blunt, shorter than the petal: stalk hairy: capsule globular. (E. Bot.) Nectary thickest at the end. Linn. — lusitan'ica.

*E. bot.* 145–*Lightf.* 6. 1.

*Leaves* nearly pellucid, marked with purplish veins, the edges rolled in. The flowers smaller, and with more of a reddish cast than in the P. vulgaris. Ray.—We are indebted to Dr. Smith for dissipating the doubts which had been entertained respecting this plant. It had been referred to the P. villosa, and P. alpina, but living plants sent by Dr. Pulteney, enabled him to decide that it is the P. lusitanica of Linnæus. *Stalk* hairy. *Bloss.* segments equal; lilac coloured.

Marshes in Dorsetsh. Hampsh. Devon. and Cornw. frequent. Huds.—Near Air, and island of Lamlash, Scotland. Dr. Hope.—About Kilkhampton. Midway from Oakhampton to Launceston, betwixt a great wood and the river, in boggy meadows. Ray.—[Lewesdon Hill, Dorsetsh. Mr. Baker.—In a bog half way between Newton Limwady and Londonderry, by the road side. Mr. Brown.] P. June, July.

P. Nectary cylindrical, as long as the petal. — vulga'ris.

*Dicks. h. s.–E. bot.* 70–*Fl. dan.* 93–*Clus.* i. 310. 2–*Ger. em.* 788. 2–*Ger.* 644—*J. B.* iii. 546. 1–*Park.* 532, 2–*H. ox.* v. 7. 13.

*Leaves* covered with soft upright prickles, secreting a glutinous liquor. *Bloss.* violet, purple and reddish, with white lips, and an ash-coloured woolly spot on the palate. Linn.

*Common Butterwort. Yorkshire Sanicle.* On bogs. [Broadmoor, about 3 miles S. West of Birmingham. Mr. Brunton.—

On the N. West side of Malvern hills, but not on the S. or S. E. side. Mr. BALLARD.] P. May.*

## UTRICULA'RIA. *Bloss.* gaping, ending in a spur: *Cal.* 2 leaves, equal: *Caps.* 1 cell.

vulga'ris. U. Nectary conical: stalk with few flowers.

*E. bot.* 252–*Fl. dan.* 138–*Riv.* 79–*Petiv.* 36. 11–*Ger. em.* 828. 5–*J. B.* iii. 783. 3–*Park.* 1258. 9–*Schmied.* 21. 12. *at the bottom.*

*Calyx* permanent; its lower leaf very slightly notched at the end. *Bloss.* full yellow; with purplish red streaks. *Nectary* conical, blunt, lined with minute, shining, globular glands. *Filaments* thick, fleshy, crooked; fixed to the base of the germen. *Summit* 2 lips; one very small; the other broad, flat, thin, fringed at the edge. After the impregnation of the germen, this larger lip closes the aperture of the style. *Stalk* cylindrical, scaly towards the top, and dividing into three. *Leaves* in whirls; thread-shaped, greatly branched and forked; set with minute whitish harmless thorns, and hollow bags, which have a glandular appearance; they contain a transparent watery fluid, and a small bubble of air. They are pear-shaped, but rather compressed; with an open border at the small end, from the edges of which arise 3 or 4 very slender fibres, which perhaps are the real roots of the plant. This fluid, when greatly magnified, appears to contain a quantity of extremely minute solid particles.

*Hooded Water-milfoile. Greater Bladdersnout.* Wet ditches and stagnant waters. [Ancot pool, near Salop. Mr. AIKIN.—In shallow waters on Birmingham Heath.] P. July.

* If the fresh gathered leaves are put into the filtre or strainer through which warm milk from the rein-deer is poured, and the milk is set by for a day or two to become ascescent, it acquires consistence and tenacity; the whey does not separate, nor does the cream: in this state it is an extremely grateful food, and as such is used by the inhabitants in the north of Sweden. There is no further occasion to have recourse to the leaves, for half a spoonful of this prepared milk, mixed with fresh warm milk, will convert it to its own nature; and this again will change another quantity of fresh milk, and so on without end. LINN.—(This did not succeed when tried with cows milk. Mr. HAWKES.)—The juice of the leaves kills lice; the common people use it to cure cracks or chops in cows udders. LINN. —The plant is generally supposed injurious to sheep; occasioning a disease which the farmers call the rot. But it may be made a question, whether the rot in sheep is so much owing to the vegetables in marshy grounds, as to a flat insect called a fluke (*Fasiola hepatica*) which is found in these wet situations adhering to the stones and plants, and likewise in the livers and biliary ducts of sheep that are affected with the rot.—From experiments made on purpose, and conducted with accuracy, it appears, that neither sheep, cows, horses, goats, nor swine, will feed upon this plant.

U. Nectary keel-shaped. mi'nor.

*Schmied.* 21–*E. bot.* 254–*Fl. dan.* 128–*Pluk.* 99. 6–*Pet.* 36. 12.

*Nectary* indistinct; pointing downwards. *Mouth of the bloss.* open, gaping; without a prominent palate. *Roots* hair-like, very slender, swimming: beset with small membranaceous bladders. *Stalk* as long as one's finger, simple, very slender; dividing towards the top into 3 fruit-stalks with 3 floral leaves. *Root-leaves* winged, hair-like; little leaves few; equal. *Cal.* with the lower leaf reflected. *Bloss.* 2 petals; gaping. *Upper lip* horizontal, heart-shaped, perforated at the base, fixed to the receptacle. *Lower lip* larger, heart-shaped, reflected at the sides; bulging at the base on the under side, prominent and keel-shaped. *Germen* egg-shaped. *Style* simple, short. *Summit* betwixt egg and tongue-shaped. *Bloss.* a paler yellow than the preceding species. LINN.

*Lesser Bladdersnout.* Ditches and muddy ponds. [St. Faith's Bogs near Norwich. Mr. PITCHFORD.—Ditches adjoining Outerthwaite, near Flookburg in Cartmell, along with U. vulgaris. Mr. JACKSON.—Chartley Moss and Norton Bog, Staffordshire. Mr. BAGOT.—Bogs in Scotland and Ireland. Mr. BROWN.] P. June, July.

## LY'COPUS. *Bloss.* 4-cleft; 1 segment notched at the end: *Stamens* distant: *Seeds* 4, blunt.

L. Leaves indented and serrated. europæ'us.

*Curt.* 201–*Fl. dan.* 1081–*Kniph.* 5–*Riv.* 22–*Pseud. matr. pal.*–*Math.* 1002–*Dod.* 595. 2–*Lob. obs.* 283. 2–*Ger. em.* 700. 1–*Park.* 1230. 1–*Pet.* 32. 5–*H. ox.* xi. 9. 20–*Trag.* 9. 2–*J. B.* iii. 318. 2.

*Cal.* with 4 or 5 clefts; segments unequal. *Bloss.* whitish, with a tinge of purple; somewhat hairy within; upper segment slightly notched at the end; lower one with a few purplish spots on the inside. Betwixt the two stamens it is not uncommon to find two other *shorter filaments* without anthers; and I once found them with anthers. *Germen* set upon a yellow glandular receptacle. *Stem* with 4 corners and 4 hollow sides; a little hairy. *Branches* opposite, rising from the bosom of the leaves. *Leaves* a little hairy. *Flowers* several together in the bosoms of the upper leaves.

Var. 1. *jagged.* Leaves deeply divided.

*Barr.* 154–*H. ox.* xi. 9. 21–*Pluk.* 45. 1.

*Water Horehound. Horehound Gypsie-wort.* Sandy ground on the banks of streams and ponds. P. July, Sept.*

## SAL'VIA. *Bloss.* gaping: *Filaments* fixed transversely to a little foot-stalk.

praten'sis. S. Leaves heart-oblong; scolloped; upper leaves embracing the stem: flowers in whirls with hardly any intermixture of leaves: helmet of the blossom gummy.

*E. bot.* 153–*Fuch.* 569–*Trag.* 53–*Dod.* 293. 1–*Ger. em.* 769. 3–*Riv.* 36–*Kniph.* 5–*Ger.* 627. 3–*H. ox.* xi. 13. 10 –*Clus.* ii. 30. 1–*Ger. em.* 771. 4–*J. B.* iii. 312. 2– *(Blackw. 258, is S. verbenaca.)*

*Floral leaves* about the length of the calyx. *Cal.* spread open. *Bloss.* bluish purple, 4 times as large as the calyx; helmet hooked like the handle of a walking stick. Its gumminess is not a constant circumstance, and therefore ought not to make a part of the specific character.

*Meadow Sage,* or *Clary.* Meadows and pastures. [Surry and Sussex, common. ST.—Wick-clifts, Gloucestershire. Mr. SWAYNE.] P. June, July.

verbena'ca. S. Leaves indented, serrated, smoothish: blossom more slender than the calyx.

*Curt.–E. bot.* 154–*Clus.* ii. 31. 1–*Ger. em.* 771. 1–*Park.* 57. 8–*Black.* 258–*Barr.* 208–*H. ox.* xi. 14. 33.

*Floral leaves* longer than the calyx. *Cal.* much wider than the tube of the blossom, but its segments not expanded and spread open. *Bloss.* not twice the length of the calyx; blue.

*Wild Clary. Wild Sage.* Meadows and pastures. [Kegworth Church-yard, Leicestershire, and about Chester. Mr. CALEY.—About Kinfare, Staffordshire; plentiful. Mr. BRUNTON. On the Castle hill, Tamworth.] P. June.†

* It dyes black. The juice gives a permanent colour to linen, wool, and silk, which will not wash out; travelling gypsies stain their faces with it. Sheep and goats eat it.—Cows and horses refuse it. The *Cassida viridis* feeds upon it.

† The seeds when soaked in water for a few minutes get a dense mucilaginous coating round them not unlike frog spawn. The seeds of the S. ratensis have the same property, but in a less degree.

OR'CHIS. *Nectary* like a horn, behind the flower: *Bloss.* gaping.

(1) *Bulbs of the root undivided.*

O. Lip of the nectary spear-shaped; very entire: horn very long: petals expanding. bifo'lia.

*Dicks. h. s.–Curt.–E. bot.* 22–*Ludw.* 95–*Hall.* 35. 2, *at* ii. *p.* 148–*Kniph.* 6–*Walc.–Dod.* 237. 2–*Lob. obs.* 88. 2, *ic.* i. 178. 1–*Ger. em.* 211. 2–*Park.* 1351. 7–*Pet.* 68. 11–*Ger.* 165. 9–*H. ox.* xii. 12. 18–*J. B.* ii. 771–*Matth.* 880. 2–*Fl. dan.* 235–*Blackw.* 588–*Flowers only, Vaill.* 30. 7–*Seguier.* 15. 10.

*Flower* white, of a very sweet scent in the night. *Petals*, the outer expanding. *Lip* spear-shaped, very entire. *Spur* awl-shaped. LINN. Leaves shining underneath, as if varnished.

*Butterfly Orchis.* Shotoverhill and Tarwood, Oxfordshire. SIBTHORP.

Var. 1. Leaves exactly oval.

There does not seem to be any exact figure of this. The plants are full 2 feet high; the leaves either two or three, exactly oval or elliptical, 6 inches long and 3 inches wide.

[Shortwood near Puckle church, Gloucestersh. Mr. SWAYNE. Woods and shady lanes, Leicestershire, common. PULTENEY.—Woods at Envil, Staffordshire.]

Two other varieties of this species have been noticed by Ray, which may be thus characterized.

Var. 2. Leaves 2, egg-spear-shaped.

*J. B.* ii. 772–*Park.* 1350–*Ger.* 162–*Ger. em.* 211. 1–*Lob. ic.* 178. 2.

These references are given by Mr. Ray, who also remarks, that the flowers are few, white, thinly set, extremely sweet, the lip narrow, the spur very long, the leaves 2, broad, like those of lilies.

It is found in woods and thickets, and flowers in May. P.

Var. 3. Leaves 2 or 3, spear-shaped.

*J. B.* ii. 771. *with* 3 *leaves–Park.* 1351–*Ger. em.* 211. 2–*Lob ic.* 178. 1.—Such are the references of Ray, who also says, that it is a lower plant than the preceding, not above 9 inches high; that the root-leaves are three in number, narrower than in Var. 2, that it is found in pastures, and flowers a month later, viz. in June.

There does not appear sufficient reasons for considering these as really distinct; the root-leaves are 3 in only one of the figures

referred to by Mr. Ray, and neither the height of the plant, the more or less egg or spear-shape of the leaves, nor yet the season of flowering, nor the stations, afford any very permanent distinctions. I have now before me several specimens gathered in June in the new forest near the monument of Rufus, which agree with Var. 2, and amongst them is one with 3 leaves, and another with 4, acutely spear-shaped, and only 7 inches high. The greenish white colour of the blossoms, and the great length of the horn, distinguish them sufficiently from all other British species.

pyramida'lis. O. Lip of the nectary 2-horned, 3-cleft: segments equal: very entire: horn long: petals somewhat spear-shaped.

*Jacq. austr.* 266–*Ray* 18, *at p.* 377–*Hall.* 35. 1, *at* ii. p. 148–*E. bot.* 110–*Pet.* 68. 4–*J. B.* ii. 764. 1–*Clus.* i. 269. 1–*Ger. em.* 210. 4–*Park.* 1349. 4–*Flowers only, Vaill.* 31. 38.

*Stem* a hand's breadth high, jointed. *Leaves* 5 or 6; spear-shaped, pointed, membranaceous. *Floral leaves* spear-shaped, coloured, as long as the germen. *Flowers* purple; white ones have been observed by Mappi. *Petals* egg-spear-shaped, 3 approaching, the two lateral ones expanding, bent back. *Lip* broad, with 2 oblong longitudinal bulgings at the base. LINN.—*Spike* short, close, pyramidal: horn longer than the germen. RELHAN. —*Stem* 8 to 15 inches high. *Leaves* spear-shaped, acute. WOODWARD —Stem and leaves of a silky glossiness; leaves strap-spear-shaped. Flowers whitish, purple. ST. The bulging protuberances on the lip of the nectary, give, as remarked by Dr. Smith, the distinguishing character of this species.

*Late-flowering Orchis. Pyramidal Orchis.* Meadows and pastures in a calcareous soil. [About Stocking-wood, Leicestershire, rare. Dr. PULTENEY.—Road sides in the Northern parts of Northamptonshire. Mr. PITT.] P. June, July.

Var. 2. Flowers white. LINN. ST. RELHAN. WOODWARD. Chalk pit Close. RELHAN.

mo'rio. O. Lip of the nectary 4-cleft, finely scolloped: horn blunt, ascending: petals blunt, approaching. LINN. Lip of the nectary with 3 lobes, the middlemost notched at the end.

*Curt.–Walc.–Dod.* 236. 2–*Lob. obs.* 88. 1; *ic.* i. 176. 2–*Ger. em.* 208. 2–*Park.* 1347. 4–*Ger.* 158. 6–*Fuchs.* 559–*J. B.* ii. 761. 3, *Lonic.* i. 202. 1–*Hall* 33. 2, *at* ii. *p.* 144–*Fl. dan.* 253–*Vaill.* 31. 13 *and* 14, *flowers only.*

*Flowers* purple, rather few. *Petals* all blunt, marked with lines, approaching. *Lip* bent back, finely scolloped at the sides, with 3 clefts, the middlemost nicked. LINN.—*Flowers* 6 to 12, loosely disposed. *Horn* shorter than the germen. *Lip of the Nectary* very broad, the middle segment dotted, smaller than the side ones. RELHAN.—*Leaves* sea-green, shining. WOODWARD. —Sometimes spotted in the spring, the spots growing paler as the flowers advance. Mr. STACKHOUSE.—Differs from the O. mascula as follows: *Stem* lower. *Spike* of fewer flowers. *Bulbs* small, round, one fixed to the base of the stem, the other connected by a fibre of the thickness of a pack-thread, and half an inch long. *Petals*, the 3 upper forming the hood, and covering the lower ones, always scored with 3 or 5 greenish veins. WOODWARD.—The green lines on the petals distinguish it from every other Orchis. RAY.

Var. 1. Flowers flesh-coloured, or white. RAY.

*Female Fool-stones. Meadow Orchis.* Moistish meadows and pastures. P. May, June.

O. Lip of the nectary 4-lobed, finely scolloped: horn blunt: upper petals turned back. mas'cula.

*Dicks. h. s.–E. bot.* 631–*Curt.* 121–*Hall.* 33. 1. *at* ii. p. 144 –*Kniph.* 7–*Woodv.* 90–*Fl. dan.* 457–*Sheldr.* 16–*Dod.* 236. 1–*Lob. obs.* 87. 3; *ic.* i. 176. 1–*Ger. em.* 208. 1– *Park.* 1346. 1–*Walc.*–*Blackw.* 53–*Fuchs.* 555–*J B.* ii. 763. 1–*Lonic.* i. 201. 1–*Matth.* 882–*Ger.* 158. 5–*Flowers only, Vaill.* 31. 12 *and* 11.

*Flowers* purple. *Petals*, the outer rather pointed, bent back. *Lip* with 3 clefts, the middlemost segment cloven, and longer than the side ones. *Spur* somewhat nicked. Very closely allied to O. morio, but differing as follows. *Stem* as tall again. *Flowers* numerous. The 2 petals on the back bent backwards, and not all approaching into a helmet. The middlemost lobe of the *lip* the smallest. LINN.—*Bulbs* oval, both fixed to the base of the stem. *Stem* 12 to 15 inches high. *Leaves* spear-shaped, bright green and shining above, sea green underneath, with longitudinal parallel veins, usually with large brown spots. *Floral-leaves* longer than the germen. *Flowers* of a darker or paler purple, rarely white. *Petals* spear-shaped, pointed, the 2 lateral ones upright, and bent back to back, the middle one expanding and lying over the 2 lower ones, which are closely approaching, and of a paler colour. *Lip of the nectary* dotted towards the base, broad, with 3 lobes, the side ones roundish, scolloped, the middle one notched at the end. *Horn* as long as

the germen, broadest and somewhat compressed at the end.—WOODWARD.

*Early Orchis. Male Fool-stones.* Meadows and pastures. P. May.*

ustula'ta. O. Lip of the nectary 4-cleft, rough with dots: horn blunt: petals distinct.

*Dicks. h. s.–Hall.* 28. 2, *at* ii. *p.* 140–*E. bot.* 18.–*Fl. dan.* 103–*Clus.* i. 268. 1–*Ger. em.* 207–*Park.* 1345–*J. B.* ii. 765. 2–*H. ox.* xii. 12. 28–*Flowers only, Vaill.* 31. 35 *and* 36–*Seguier* 15. 4.

*Stem* angular. *Spike* close; with near 40 flowers. *Floral-leaves* as long as the germen. *Horn* much shorter. *Petals* purplish without; greenish white within. RELHAN.—*Leaves* 5 or 6, spear-shaped. *Spike* short (seldom an inch.) *Lip* white, with purple or purplish spots, with 3 divisions, the 2 outer segments expanding, spear-shaped, entire, with 1 or 2 teeth, the middle one longer, widening at the end, with 2 short lobes and an intermediate point. WOODW.—From 4 to 8 inches high. *Leaves* 4 to 6, more or less acute. *Floral-leaves* rather shorter than the germen. *Spike* egg-shaped. *Nectary*, middle segment of the lower lip always cloven, with or without a small projecting point in the cleft. This lip is white, with beautiful purple dots, but I have not found the roughness mentioned by Linnæus.

* Mr. Moult, in a letter to Dr. Percival, inserted in the *Phil. Trans.* vol. 59, p. 1, describes his method of making Salep. The best time to gather the roots, he observes, is when the seed is formed, and the stalk going to fall; for then the new bulb, of which Salep is made, is arrived at its full size. The new roots being separated from the stalk, are to be washed in water, and the outer thin skin taken off. They are then to be set on a tin plate, in an oven heated to the degree of a bread oven. In six, eight, or ten minutes, they will have acquired a transparency like horn, without being diminished in size. They are then to be removed into another room to dry and harden, which will be done in a few days; or they may be finished in a very slow heat in a few hours.—Salep thus prepared, may be sold for less than a shilling a pound, and affords a mild nutriment, which, in times of scarcity, in cases of Dysentery and Strangury, and on ship-board, may be extremely useful. See *Percival's Essays*, part ii. p. 37.—Mr. Moult made his experiments upon the roots of this species only. The preceding species is undoubtedly equally proper for the purpose, and it is highly probable that every species of Orchis may be used indiscriminately. Salep has been hitherto imported from Turkey at a considerable price, but it is to be hoped, we shall no longer be supplied from foreign markets, with an article that our own country can supply us with in almost any quantity. If ever plantations of it are made, the plants must be propagated by roots, for the seeds seldom come to perfection. Dr. Percival observes, that he got some seeds to all appearance perfect, but they would not vegetate.

*Dwarf Orchis.* Dryish meadows and pastures. [Gogmagog Hills, Newmarket Heath, and Barneck Heath, near Stamford. Woodward.—On Wick Clifts, and on the Wiltshire Downs. Mr. Swayne.—On Salisbury Plain, particularly upon the Barrows about Stonehenge.] P. May, June.

O. militaris. Lip of the nectary 5-cleft; rough with dots: horn blunt: petals confluent.

*Flowers* in a spike, purplish or ash-coloured. *Petals* growing together. *Lip* 3-cleft; middle segment longest; rough with dots. *Spur* short, bluntish. Linn.—But half the length of the germen.

Var. 2. *Fusca.* Lip 3-cleft, middle segment very broad, notched at the end, and a little point in the notch.

*Curt. Jacq. austr.* 307–*E. bot.* 16–*Ray* 19. 2. *at p.* 379–*Hall.* 31, *at* ii. *p.* 140–*Flowers only, Vaill.* 31, 27, 28–*Seguier,* ii. 15. 2.

With a greenish cast. Jacq. ic. O. moravica.—O. militaris purpurea. Huds. ed. ii.—O. fusca. Curt.—From 8 to 12 inches high. *Spike* about 3 inches long. *Leaves* egg-spear-shaped. *Bloss.* varying much in colour, of a pale rose red, with sometimes a greyish cast on the lip, and of a deeper purplish hue on the upper petals.

*Orchis fusca.* Jacq.—On dry chalky soils, near woods and thickets. About Rochester, and near Northfleet, Kent. P. May, June.

Var. 3. Lip 3-cleft, segments strap-shaped.

*Hall.* 28. 1. *at* ii. *p.* 140–*Col. ecphr.* i. 320. 2–*Ger. em.* 205. 2–*Park.* 1344–*Fuch.* 554–*J. B.* ii. 755–*Trag.* 778 –*Flowers only, Vaill.* 31. 25 *and* 26.

*Man Orchis.* Meadows and pastures in a chalky soil. Cawsham Hills by the Thames sides not far from Reading, Berkshire, and near the old chalk-pit by the paper-mill at Harefield. P. May.

It does not appear to me that these can well be made distinct species. The colours are confessedly variable, and in all the lower lip may be described 3-cleft; considering the middle segment as notched, with a projecting point in the notch; or as 5-cleft, when this little projecting point must be reckoned as one of the segments. The upper petals in all are confluent, and the lip dotted. The greater or lesser breadth of the middle segment of the nectary, is the principal difference. Dr. Smith remarks, that all the varieties smell like new hay.

(2) *Bulbs of the root hand-shaped.*

latifolia. O. Bulbs somewhat hand-shaped, straight: horn of the nectary conical: lip with 3 lobes; the lateral ones bent back: floral-leaves longer than the flowers.

*Bulbs* straight, not much straddling, divided into 2 or 3 fingers. *Leaves*, especially the lower, a little spotted. *Flowers* in a spike. *Petals*, the lateral ones bent back, those at the back expanding, with the hinder edges bent back. *Lip* folded behind, serrated, with 3 obscure lobes. Differs from O. *maculata* as follows. *Floral-leaves* longer than the flowers. *Leaves* nearly without spots. *Stem* hollow. LINN.

Var. 2. LINN.—Middle segment of the lip blunt, as narrow again as the side ones, but of the same length. ST.

*Curt.* 250–*Mill. illustr.*–*Fl. dan.* 266–*Hall.* 32. 2, *at* ii. 142–*Dod.* 240. 1–*Lob. obs.* 90* 3. *ic.* i. 188. 1–*Ger. em.* 220. 1–*Park.* 1356. 1–*Ger.* 169. 1–*J. B.* ii. 774. 1–*Blackw.* 405–*H. ox.* xii. 14. 2–*Flowers only*, *Vaill.* 31. 35. 4.

*Bulbs* cloven into 2, each segment cloven and expanding. *Stem* 7 to 14 inches high, somewhat hollow. *Flowers* purple, the throat whitish, with purple dots. *Spike* oblong spear-shaped, one to two and a half inches long. ST.

*Broad-leaved*, or *Male-handed Orchis.* Moist meadows and pastures, and marshy ground, common. P. May, June.

Var. 3. LINN.—Middle segment of the lip egg-shaped, pointed, as long again as the side ones. ST.

*Vaill.* 31. 2 *and* 1–*Walc.*–*Dod.* 241–*Lob. obs.* 91.* 3; *ic.* i. 190. 1–*Ger. em.* 222. 3.–*Park.* 1358. 11–*Ger.* 171. 3–*Lob. obs.* 93. 1. *ic.* i. 191. 2.–*Ger. em.* 226. 1–*Ger.* 174. 2 –*Flowers only*, *Vaill.* 31. 2 *and* 1–*Park.* 1360. 16.

*Lip of the nectary*, lateral segments blunt. These variations I have observed in different plants, but Vaillant informs us that they are sometimes found in the same plant. ST.—*Stem* furrowed. *Leaves* spear-shaped; 4 to 6, in some plants spotted. *Floral-leaves* coloured, longer than the germens. *Flowers* purple, to 40. *Spike* close. *Horn* blunt, shorter than the germen. *Lip* very broad, with deeper coloured lines; lateral segments finely scolloped, the middle one spear-shaped. RELH.—*Stem* about a foot high, smooth, angular towards the top. *Leaves* alternate, sheathing the stem to the spike, acutely spear-shaped, keeled, rarely spotted, and then very obscurely so. *Floral-leaves* much longer than the flowers, resembling the uppermost leaves, spear-shaped, pointed, sometimes with a tinge of purple.

*Flowers* purple, flesh-coloured, or white. *Spike* somewhat conical. *Petals* spear-shaped, the middlemost of the 3 upper and outer with the 2 inner approaching. *Lip*, the middle lobe the longest, narrow, somewhat pointed, marked with dots and lines forming a regular figure, somewhat corresponding with the form of the lip. WOODWARD.

[In the same moist meadows with (1) between Battenhall and Worcester. ST.]

O. Bulbs expanding: horn of the nectary shorter than the germen: lip flat: petals on the back upright. maculata.

*E. bot.* 632–*Fl. dan.* 933–*Hall.* 32. 1. *at* ii. *p.* 142–*Lonic.* i. 203. 2–*Dod.* 240. 2–*Lob. obs.* 90.* 4; *ic.* i. 188. 2–*Ger. em.* 220. 2–*Park.* 1357. 2–*Trag.* 781–*Ger.* 169. 2–*J. B.* ii. 775. 2–*Lob. obs.* 91.* 1. *ic.* i. 189. 1–*Ger. em.* 222. 1–*H. ox.* xii. 14. *row* 2. 5–*Flowers only*, *Vaill.* 31. 9 *and* 10.

One of the *bulbs* floats in water, this nourishes the stem, the other sinks and bears the bud for the next year. *Stem* solid. *Leaves* spotted. *Floral-leaves* not longer than the flowers. *Flowers* sometimes white. *Petals*, the 3 outer upright, the 2 inner approaching. *Lip* with 3 lobes, scolloped, the middle segment quite entire, very narrow. LINN.—*Leaves* rather hoary, with oblong, transverse, darkish spots. *Spikes* close, conical. *Flowers* to 40, pale purple, with deeper lines. *Floral-leaves* longer than the germens. *Horn* blunt, as long as the germen. RELH.—*Bulbs* compressed; fingers much straddling. *Stem* 6 to 18 inches high, cylindrical below, angular above. *Leaves* underneath silvery grey, with parallel green veins, above pale green, often partially covered with the same silvery skin; spots reddish brown, numerous, mostly oval and transverse, sometimes irregular, the edges of the upper ones decurrent, whence the angular appearance of the upper part of the stem in this and several other species. *Flowers* sometimes nearly white, and without spots, when the leaves also are pale, and without spots. *Petals* spear-shaped, the 3 outer expanding, sometimes spotted. *Lip* deeply cloven into 3, marked with purple spots and lines; the lateral segments angular, the middle one spear-shaped. *Horn* bluntish, shorter than the germen. Differs from O. latifolia, in the lowermost leaf being always very blunt, the lip being deeply cloven into 3, and in its flowering later. WOODW.—*Floral-leaves*, the lower longer than the flowers, the upper shorter. ST.—The O. *mascula*, and *morio*, have frequently spotted leaves, and on that account, from too much attention being given to the trivial name of this species, have sometimes been mistaken for it.

*Female-handed Orchis. Spotted Orchis.* Woods, rich mea-

dows, when the spike is large and a hand's breadth long; also in barren pastures, when the spike is only half the size, and with fewer flowers. RAY.

Var. 2. Leaves not spotted.

Anchandenny Woods, Scotland. PARSONS in *fl. scot.* 518.

conop'sea. O. Horn of the nectary bristle-shaped, longer than the germen: lip cloven into 3: two of the petals very much expanding.

*Dicks. h. s.–Fl. dan.* 224–*E. bot.* 10–*Hall.* 29. 2, *at.* ii. 147 –*Vaill.* 30. 8 *and* 8–*Fuchs.* 712–*J. B.* ii. 778. 1–*Lob. obs.* 91.* 2. *ic.* i. 189. 2–*Ger. em.* 223. 2–*Park.* 1358. 5–*H. ox.* xii. 14. 14–*Ger.* 171. 2–*Flowers only, Vaill.* 30. 8 *and* 8.

Resembling O. *pyramidalis*. *Petals*, the outer expanding. *Lip* finely scolloped; segments equal, the middlemost very entire. *Spur* very long, as in O. *pyramidalis*. LINN.—*Stem* 12 to 18 inches high, cylindrical below, angular above. *Leaves* spear-shaped, pointed; bright green, keeled, with a strong mid-rib, on each side of which is one strong rib, and 2 or 3 fainter veins; *lower stem-leaves* embracing the stem; the *upper* sitting, decreasing in size till they resemble the floral-leaves. *Floral-leaves* spear-shaped, acute, longer than the germen. *Spike* long, loose. *Flowers* flesh-coloured, or pale purple, very sweet. *Petals*, the middlemost of the outer and the 2 inner ones closely approaching, their points bent inwards, and covering the stamens; the 2 outer spear-shaped, at right angles with the lip of the nectary. *Spur* slender, semi-transparent, much longer than the germen. *Stamens* with 2 fleshy prominences at their base. *Summit*, the opening between the stamens very apparent. WOODW. —*Leaves* strap-shaped, doubled together lengthwise. *Upper lip of the nectary* cloven. *Horn* crooked. The great length of the horn of the nectary is sufficient to distinguish it from every other species in this subdivision.

*Red-handed Orchis*. Meadows and pastures. [In a morass near Leeds. Mr. WOODW.—Knutsford Moor, Cheshire. Mr. AIKIN.—Pastures under Shortwood near Pucklechurch, Glocest. and on the Wiltshire Downs. Mr. SWAYNE.—Dry pastures near Auchin Dewney, 7 miles from Edinburgh, and abundantly on the hilly grounds N. of the river Leven, Dumbartonsh. Dr. HOPE.] P. June.

(3) *Roots fibrous*. [Satyrium albidum.]

aborti'va. O. Bulbs thread-shaped: lip of the nectary egg-shaped; very entire: stem leafless.

*Jacq. austr.* 193–*Hall.* 36, *at* ii. *p.* 151–*Buxb.* iii. 1. 1.

*Stem* sheathed with scales. *Flowers* violet. LINN.—*Horn* conical, slightly curved, very much pointed. Mr. WOODWARD.

*Purple Bird's-nest. Bird's-nest Orchis.* Dryish meadows. Near Alton, Hampsh. *R. Syn.* P. May, June.

This has been supposed to be the plant intended by Ray, Limodorum austriacum, *Syn.* 383, but the figures to which he refers have the lip of the nectary cloven, and I believe we have no other place mentioned for the growth of the O. *abortiva*, than that given from D. Goodyer in Ray's Synopsis; so that it is yet doubtful whether it really be a native of this country.

## SATY'RIUM. *Nectary* behind the flower; inflated, roundish.

S. hirci'num. Bulbs undivided: leaves spear-shaped: lip of the nectary 3-cleft; the middle segment strap-shaped, oblique; bitten off.

*Jacq. austr.* 367–*Hall.* 26, *at* ii. 136–*E. bot.* 34–*Dod.* 237. 1–*Ger. em.* 210. 1–*Park.* 1348. 1–*Ger.* 160. 1–*H. ox.* xii. 12. 9–*Lob. obs.* 90. 1. *ic.* i. 177. 1–*Ger. em.* 210. 2–*Park.* 1348. 2–*J. B.* ii. 756–*Ger.* 160. 2–*Flowers only*, *Vaill.* 30. 6, *and Seguier*, 15. 1.

*Plant* tall. *Flowers* whitish, smelling like a goat. *Lip*, the middlemost segment very long, the lateral ones very short, awl-shaped, very entire. LINN.—The largest and tallest of our *Orchises*. RAY.—*Flowers* greenish white, purple within.

*Lizard-flower*, or *Satyrion*. Chalky meadows and pastures. Several places in the neighbourhood of Dartford, Kent. RAY. P. June, July.

S. vir'ide. Bulbs hand-shaped: lower leaves oblong, blunt: lip of the nectary strap-shaped, 3-cleft; the middle segment indistinct.

*Dicks. h. s.–E. bot.* 94–*Hall.* 26. 2, *at* ii. *p.* 137–*Fl. dan.* 77–*Ger. em.* 224. 3–*Park.* 1358. 9.

*Flowers* pale, greenish. *Petals* approaching. *Lip*, the lateral segments narrower, the middlemost smaller. LINN.—*Stem* 5 to 11 inches high, solid; angles unequal, sharp, formed from the edges of the leaves and floral-leaves. *Spike* spear-shaped, 1 to 3 inches long. *Floral-leaves* awl-spear-shaped, keeled, somewhat bowed in. *Calyx*, *tube* investing the germen; *border* with 3 divisions; segments egg-shaped, nearly equal, with sharp longitudinal wrinkles, approaching upwards, before flowering glued together, and involving all the parts of fructification, except the

nectary; the side ones more convex on the outside, bowed back sidewise at the points, the middlemost rather smaller, more bent inwards. These, which are clearly an extension of the skin investing the germen, inclose as a calyx the other parts of fructification, and are of a texture similar to that of the floral leaves. *Blossom* of 3 petals, the 2 upper strap-spear-shaped, concave, upright, of a greenish whitish hue, as long as the calyx, inserted at the divisions at the base of the upper lip of the third petal. These are of a different texture from the calyx, as above described, are situated within it, and exactly resemble the texture of petals. The *third petal* gaping, with 2 lips, surrounding the edge of the germen; *upper lip* roundish, concave, reddish brown, as short again as the 2 upper petals, divided within into 2 cells, each containing 1 of the stamens, composed of 4 valves, marked at the base with a fleshy tooth; *lower lip* oblong, strap-shaped, bent back, somewhat longer than the calyx, flat, of a yellowish greenish hue, the sides and end tinged with brownish purple, the edges bent in at the base, with a longitudinal ridge running along the middle, cloven into 3 at the end, the lateral segments strap-shaped, bluntish, the middlemost very short, projecting underneath at the base into a nectary. I consider this as a petal, from its similarity to that of the *Fumaria*, and the whole class of *Personatæ*, which it exactly resembles. *Nectary* roundish, slightly furrowed along the middle, concave, hanging down from the base of the lower lip of the blossom. In *Fumaria* and the *Personatæ*, the nectary, as here, is an expansion of the petals, containing a honey-like juice. *Anthers* unchanged on being moistened with water, and not containing any visible pollen. ST. —*Spike* loose, with few flowers. *Floral-leaves* much longer than the flowers. WOODWARD.—*Stem-leaves* spear-shaped, pointed.

*Frog Satyrion.* Meadows and pastures, in gravelly soil; but rare. On Hellse-fellnap, near Kendal. HUDS.—Fields in the way to Glenfield near Leicester. PULTENEY.—Shotover-hill, South-leigh, Carnbury, Burford Downs, Oxon. SIBTHORPE.

P. June, Aug.

albidum. S. Bulbs bundled: leaves spear-shaped: lip of the nectary 3-cleft: segments acute; the middle one blunt.

*Dicks. h. s.-E. bot.* 505-*Fl. dan.* 115-*Hall.* 26. 1. *at* ii. *p.* 137-*Mich.* 26. *A. B. C.*

Haller seems fully justified in not separating these plants from the *Orchis*. *Stem* 9 to 15 inches high. *Leaves*, the lower oval, sheathing the stem. *Spike* long. *Floral-leaves* much pointed. *Petals* oval-spear-shaped. *Lip* short, the middle segment the longest. *Floral-leaves* longer than the germens. *Spur* about half as long; blunt, bowed back, but not double, as in

Gen. *descr.* *Petals* white, lip green. WOODWARD.—*Spike* 1½ inch long, cylindrical. *Leaves* strap-spear-shaped.

*White Satyrion.* Moist meadows in Wales, and about Malham, Yorkshire. *R. Syn.* and Llanberys. Mr. DAVIES.—Dry mountainous pastures in Argyleshire and the Hebrides. LIGHTF. —[In the same places as Orchis conopsea. Dr. HOPE.]

P. June, July.

S. Roots fibrous: leaves egg-shaped, growing from the root: flowers pointing one way. repens.

*E. bot.* 289–*Jacq. austr.* 369–*Fl. dan.* 812–*Lightf.* 22, *at p.* 520–*Hall.* 22. 3. *Epipactis at* ii. *p.* 132–*Gunn.* ii. 6. 1 –*Cam. hort.* 35–*Ger. em.* 227. 4–*Ger.* 175. 4–*Park.* 1355. 8–*J. B.* ii. 770. 2.

*Root* creeping. *Leaves* on leaf-stalks, with a network of brown veins. *Petals* 3, downy, glued together. *Lip* spear-shaped, or egg-oblong. In place of a *spur* a boat-shaped keel. LINN.—*Stem* a foot high, hairy, especially towards the top. *Leaves* near the base of the stem, with 5 to 7 ribs. *Leaf-stalks* broad, leafy. *Flowers* whitish, or straw-coloured, 15 to 20, from one side of the fruit-stalk turning round and looking to the other. *Floral-leaves* spear-shaped, longer than the germen, of the same colour with the flowers. *Lip* terminating behind in a bulging boat-shaped nectary, which makes it belong more properly to the genus *Serapias.* LIGHTF.—It is from Dr. Smith, in *E. bot.* we learn that the roots are not bulbous, and that Mr. Sowerby found two internal spear-shaped petals, like those of Orchis ustulata.

*Creeping Satyrion.* Old mossy woods, but very rare. LIGHTF.—About Moy-hall, near Inverness, and other places in Scotland. [In a wood near Gordon Castle. Dr. HOPE.]

P. June—Aug.

## OPHRYS. *Nectary* slightly keeled underneath.

### (1) *Bulbs branched.*

O. Bulbs fibrous, bundled: stem sheathed, leafless: lip of the nectary cloven. nidus-avis.

*Dicks. h. s.–E. bot.* 48–*Hall* 37. 2. *at.* ii. *p.* 149–*Fl. dan.* 181–*Trag.* 785–*Dod.* 553. 2–*Lob. ic.* i. 195. 1–*Clus.* i. 270. 1–*Ger. em.* 228–*Park.* 1362, *Orchis, &c.*–*H. ox.* xii. 16, 18–*Pet.* 70. 3–*Flower and fruit only. Tourn.* 250. 3.

Whole *plant* brown. *Stalk* cloathed with sheathing leaf-scales. RELHAN.—*Root* fixed laterally to the stem; fibres fleshy,

in a thick bunch, more numerous and intricate than those of O. *bifolia*. *Stem* 12 to 15 inches high, thickest at the base, firm, continuing long after the seeds are shed. *Leaf-scales* dry, numerous, embracing the stem. *Spike* cylindrical, 4 or 5 inches long, rather loose below, close above. *Floral-leaves* shorter than the germens, spear-shaped. *Petals* closely approaching, oval. *Lip* long, at first strap-shaped, but at the end cloven, the segments blunt, straddling. *Capsules* on fruit-stalks, triangular, a prominent rib along each angle and side, the interstices plain. This and the *Orchis abortiva* are closely connected in habit with Orobanche, Lathræa, and Monotropa. Mr. WOODWARD.

*Bird's-nest Twayblade.* Woods and shady places, but rather rare. About Charlton, Maidstone, and Rochill, Kent; Aldburgh, Suffolk; near Ingleton, and in Offley Park. [Heydon, Norfolk. Mr. BRYANT.—Buckham Wood, Cumberland. Mr. WOODWARD.—Woods on a limestone soil, not uncommon about Newton Cartmel. Mr. HALL.—Benthal-edge, Coalbrooke Dale. P. May, June.*

Corallorhi'za. O. Bulbs branched, zigzag: stem sheathed, leafless: lip of the nectary 3-cleft.

*Fl. dan.* 451–*Gunn.* ii. 6. 3–*Hall.* 44. *at* ii. *p.* 159–*Clus.* ii. 220. 2–*Ger. em.* 1585. 2–*Park.* 1363. 5–*Ger.* 1387–*J. B.* ii. 785. 1–*Lightf.* 23, *at p.* 523–*Rupp. jen.* 2, 3–*Orobanche*, *&c.*

*Stamens* 4. in each cell 2. *Stalk* with only scales which are not green. HALL.—but, in a specimen in my possession, the lower sheath terminates in a real spear-shaped leaf, upright, somewhat approaching, half an inch long, 2 lines broad, and above these 2 others which are shorter. WOODWARD.

*Coral-rooted Twayblade.* Marshy or moist woods, very rare. On the South side of a hanging wood, near the head of Little-Loch-Broom, Rosshire. LIGHTFOOT.—In woods of fir in the North of Scotland. HUDS. P. Aug. Sept.

spira'lis. O. Bulbs incorporated, oblong: stem somewhat leafy: flowers placed spirally, but pointing one way: lip of the nectary undivided, finely scolloped. LINN.

*Dicks. h. s.–E. bot.* 33–*Curt.–Fl. dan.* 387–*Dod.* 239. 2–*Lob. obs.* 89.* 2. *& ic.* i. 186. 1–*Park.* 1354. 3–*Gies.* 42.

* Mr. Hall observes, that the woods in the part of Lancashire where he lives, are cut down every 15 years; that for 6 or 8 years after they are cut, this plant is not to be found, but as soon as the grasses are chiefly destroyed by the shade, it again makes its appearance, and in some places pretty plentiful.

*Flowers* white within. *Petals*, the outer glued together. *Lip* roundish, finely scolloped, the teeth fringe-like. LINN. —*Bulbs* 1 to 3, varying from oblong and half an inch to cylindrical, and one and a half inch long, rough, with a few fibres. —*Stem* 6 to 9 inches high, smooth below, downy above, from the side of the root. *Root-leaves* in a tuft, oval-spear-shaped, very entire, smooth, bright green; *stem-leaves* 3 or 4, spear-shaped, tapering to a point, embracing the stem. *Spike* 2 to 4 inches long. *Floral-leaves* longer than the germen, oval-spear-shaped, tapering to a point. *Flowers* numerous, white. *Petals*, the 2 inner spear-shaped, expanding. *Lip* narrow at the base, widening downwards, at the end roundish and serrated. WOODW. —*Stem* slightly wreathed. *Spike-stalk* wreathed, downy. *Petals* 5, spear-shaped, nearly equal, upright, approaching, greenish white, smooth within, downy without, the 3 upper glued together, and appearing as one, the middlemost the largest. *Nectary* oblong-egg-shaped, at the base somewhat heart-shaped, and marked with a blunt tooth on each side, nearly doubled to, and involving the parts of fructification, slightly keeled underneath, at the end bluntish and finely scolloped, somewhat fleshy, glossy, glutinous, green, with a whitish edge, and towards the point frosted. *Stamen* 1, placed on the upper side of the style. *Filament* none, except a short tooth projecting from the inner edge of the style. *Anther* of 2 cells and 4 valves, egg-shaped, upright, growing to the inner edge of the posterior tooth of the style. *Style* somewhat club-shaped, hooked, projecting from the point of the germen, concave above where it receives the mass of pollen, which sometimes remains in it even after the flower is out of blossom; margin upright, with 5 teeth beneath obliquely lopped. *Summit* flat, somewhat egg-shaped, green, glutinous, cloven at the point. ST.—The flowers as Linnè says, do really point in one direction, from one line; but this line having a spiral twist, they appear to point in different directions.

*Triple Twayblade*, or *Ladies-traces*. Dry sandy and chalky pastures, and moist meadows. RAY.—[Dry barren clayey pastures, and on a boggy common. WOODWARD.—In a croft near Whitehall, on the road from Truro to Redruth, Cornwall. Mr. WATT.—Under the rocks at Pinney Cliffs, near Lymè. Mr. KNAPPE.—In good soil, on the sides of sunny banks in the Limestone pastures about Newton Cartmel. Mr. HALL.]

P. Aug. Oct.

O. Bulb fibrous: stem with 2 leaves: leaves egg-shaped: lip of the nectary cloven. ova'ta.

*Hall.* 37. 1. *at* ii. *p.* 150–*Curt.* 177–*Gars.* 425. 2–*Dod.* 242. 1–*Lob. obs.* 161. 3. *& ic.* i. 302. 2–*Park.* 504. 1–*Fuchs.* 566–*J. B.* iii. 533. 2–*Fl. dan.* 137–*Matth.* 1225–*Lonic.* i. 241. 2–*Ger.* 326–*Pet.* 70. 10.

*Leaves* opposite. *Lip* strap-shaped, cloven half way down. LINN.—*Flowers* numerous, yellowish green. *Floral-leaves* not half the length of the germens, oval, taper-pointed. *Petals* forming a kind of hood, the 3 outer spear-shaped, the 2 inner strap-shaped, somewhat tinged with purple. *Lip* as long as the germen; nearly strap-shaped, rolled back at the edges; segments slightly straddling, with mostly a short pointed intermediate lobe. *Anthers* not elastic. WOODWARD.—*Calyx*, leaves 3, apparently extensions of the blunt angles of the germen, which in the ripe capsule appear in the form of narrow valves. *Petals* 3, the *upper* strap-shaped, greenish, tinged with purplish brown at the edge, the *lowermost* thrice as long; all apparently extensions of the sides of the germen, which in the ripe capsule appear in the form of broad valves. *Nectary* none. *Stamen* 1. *Anther* sitting, inserted by its point into the point of the summit, cloven, evidently 1, and not 2 as in *Orchis*, appearing like a tongue between the summit and the upper segment of the blossom, soon falling off. *Case of the stamen* on the under side of the upper segment of the blossom, fleshy, folded into 2 cells, which inclose the 2 lobes of the anther in its earlier state, and when those are ripe and bursting from their inclosures have disengaged themselves, closing again, and pressing upon the anther, remain after it has fallen off, and turning brown, might easily be mistaken for its anther. *Capsule* not twisted, just before shedding its seed inversely egg-shaped, many times larger than the germen; 6-cornered, 3 of the corners prominent but blunt, the 3 alternate ones keeled; of 1 cell, and 6 valves; 3 strap-shaped, forming the blunt corners, and 3 placed alternately, spear-oblong, thrice as broad, forming the acute corners of the capsule: opening widely at the sutures, but connected above and below, *letting out while yet green the seeds at the suture*; in this state nearly globular, yellowish green, resembling in figure an antique helmet with a vizor. *Seeds* very numerous, adhering to the inside of the broader valves, in 2 lines along the back of the keeled angle: oblong, tapering each way, white, membranaceous, reticulated, each containing a single globular kernel rather smaller than the diameter of the case which contains it, opaque and of a greenish white. ST.—*Flowers* with a fragrant and musky scent. Mr. DICKENSON.—Plant about 12 inches high. *Spike* 4 inches long, cylindrical; little fruitstalks longer than the germens or the floral leaves.

*Common Twayblade.* Woods and moist shady thickets: not unfrequent in meadows and pastures. [Beechwood, on Lansdown. Mr. SWAYNE.—Hurcot wood. July 20, 1789. ST.]

P. May, June.

Var. 2. Leaves acute. Mr. WOODWARD.—J. B. iii. 534. Much smaller and greener than the preceding. *Leaves* sometimes three. (Park. Ray.) Leaves triangular or heart-shaped. Ray. *Leaves* oval, pointed.

*Bifolium palustre*, Park. 505—R. Syn. 385. Woodw.—Low wet grounds between Hatfield and St. Alban's, and divers places in Romney Marsh. Park.—Boggy and fenny grounds near Gamlingay, Cambridgeshire. Hurst Hill and Tunbridge Wells. *R. Syn.*—[Marshy ground. Mr. Woodward.—Hallinghall wood, near Loughborough. Buddon wood. Stocking wood, near Leicester. Pulteney.]

O. Bulb fibrous: stem with 2 leaves: leaves heart-shaped. corda'ta.

*Dicks. h. s.-E. bot.* 358-*Hall.* 22. 4; *Ophrys, &c. at* ii. 132-*J. B.* iii. 534. 2-*Pet.* 70. 11-*H. ox.* xii. 11. *row* 1. 4-*Gunn.* ii. 3. 6.

*Leaves* opposite. *Lip* cloven, with a tooth on each side of the base, which is not the case in *O. ovata.* Linn.—*Root*, fibres not bundled. *Stem* 6 to 9 inches high. *Spike* short, with few flowers. *Floral-leaves* minute, oval spear-shaped, as long as the fruit-stalks. *Petals* expanding, green, the 3 outer oval spear-shaped, the 2 inner spear-shaped. *Lip* strap-shaped, green, purplish at the base, divided below the middle; segment awl-shaped. Woodward.

*Least Twayblade.* Moist mountainous heaths, especially in boggy ground, in Yorkshire, Lancashire, and Westmoreland. [On Ingleborough, and on the high moor between Sheffield and Chatsworth. Dr. Smith.] P. June, July.

(2) *Bulbs undivided.*

O. Bulb roundish: stalk naked, 3-cornered: lip of the nectary egg-shaped. Loesel'ii.

*Dicks. h. s.—Fl. dan.* 877-*E. bot.* 47-*Lob. adv. alt.* 506. 1 -*J. B.* ii. 770. 1.-*Pluk.* 247. 2.-*Pet.* 70. 12.

*Root* a bulb, ascending, with a branch. *Leaves* spear-shaped, 2, nearly as long as the stalk. *Stalk* 3-square above. *Flowers* 5 to 8, and not more. *Petals* narrow, bent back. *Lip* egg-shaped, large with respect to the rest. Linn.—*Stalk* 6 inches high, upright, with from 3 to 5 angles, smooth. *Root-leaves* very entire, bare. *Flowers* in a bunch, yellowish green, 4 to 6 or 7. *Petals*, the 3 outer strap-shaped, bent back, green, the two inner on the sides thread-shaped, somewhat purplish. *Lip* very entire, somewhat purplish. *Capsule* upright, oblong, angular. *Seeds* numerous, small. Huds.

*Dwarf Twayblade.* O. lilifolia Loeselii. Huds.—But the O. lilifolia is not a native of Europe. Woodward.—St.—Since confirmed by Dr. Smith, from a comparison with the herbarium of Linne. [St. Faith's-Newton bogs near Norwich; a single specimen given to Mr. Lightfoot. Mr. Pitchford.—None

since found either in Norfolk or Suffolk; but in 1785, I saw a specimen from Mr. Sole, which was found on Hinton Moor. Mr. Woodw. and on other Moors near Cambridge by Mr. Relhan. See his *Fl. Cantab.* P. June, July.

monor'chis. O. Bulb globular: stalk naked: lip of the nectary 3-cleft; cross-shaped.

*Dicks. h. s.–Seguier.* ii. 16. 15–*J. B.* ii. 768. 3–*Fl. dan.* 102–*Hall.* 22. 3; *Monorchis, at* ii. *p.* 132–*Mich.* 26. 3–*Gmel.* i. 4. 1–*Rupp.* 2. 5, *Monorchis, at p.* 238.

*Root* solitary. *Lip*, the lateral lobes transverse. *Flowers* yellowish, green, sweet. Linn.—*Stem* about 6 inches high, cylindrical, smooth. *Root-leaves* 2 or 3, sheathing the stem, spear-shaped, smooth, shining, yellowish green; *stem-leaves* 1 or 2, awl-shaped, sitting. *Spike* one or one and a half inch long, with numerous flowers. *Flowers* small, greenish yellow, with a faint musky scent. *Floral-leaves* spear-shaped, taper-pointed, the lower equal to or somewhat longer than the germen, the upper somewhat shorter. *Germen* oval, sitting, tapering above into a sort of fruit-stalk, whence the flower hangs obliquely nodding. *Petals*, the 3 outer oval spear-shaped, somewhat approaching, the 2 inner broad at the base, scolloped, and suddenly narrowing into strap-spear-shaped. *Lip* deeply cloven into 3; segments spear-shaped. Woodw.

*Yellow Orchis. Musk Orchis*, or *Twayblade.* Barren pastures in a calcareous soil. [Chalk pit at Marham, near Swaffham, Norfolk. Mr. Woodward.—Near Snettisham. Mr. Crowe.] P. July.

anthropopho'ra. O. Bulbs roundish: stalk leafy: lip of the nectary strap-shaped, 3-cleft; the middle segment long; cloven.

*Curt.–E. bot.* 29–*Col. ecphr.* i. 320. 1–*Pet.* 68. 8–*Hall.* 23, *at* ii. 133–*Flowers only, Vaill.* 31. 19 *and* 20.

*Bulbs* roundish. *Stem* about 1 foot high, firm, smooth, cylindrical at the base, somewhat angular upwards. *Root-leaves* 4 or 5, expanding, spear-shaped, varying in breadth; *stem-leaves* 1 or 2 just above the former, closely embracing the stem. *Spike* long, loose. *Floral-leaves* membranaceous, spear-shaped, finely tapering at the end, half as long as the germen. *Petals*, the 3 *outer* oval-spear-shaped, greenish, with purple lines and edges; the 2 *inner* strap-shaped. *Lip* long, the 2 outer segments strap-shaped, slender; the middlemost as long again, cloven half way down into 2 pointed and somewhat straddling segments. Woodw.

*Man Twayblade.* Chalky meadows and pastures, near Northfleet, Greenhithe, and other places in Kent. [Ashwellthorpe, near Norwich. Mr. Crowe.] P. June.

**O.** Bulbs roundish; stem leafy; lip of the nectary convex, cloth-like, with 3 divisions, the middle segment cloven. — **muscifera.**

*Hall.* 24. 2, *at* ii. 135–*Gunn.* ii. 5. 1–*E. bot.* 64–*Jacq. ic.* 1–*Walc.*–*Pet.* 68. 10–*Dod.* 238. 3–*Lob. obs.* 91. 1–*Park.* 1352. 12–*Lob. obs.* 90. 4, & *ic.* i. 181. 1–*Ger. em.* 213. 6–*Park.* 1352. 10–*Flowers only*, *Vaill.* 31, 17 *and* 18.

*Petals*, the 3 outer egg-shaped, entire, expanding; the 2 inner strap-shaped, blackish purple. *Lip* oblong, blackish purple above, with a blue band below the upper lobes, underneath. Huds.—*Petals*, the 2 *inner* thread-shaped, blackish purple, resembling the feelers of an insect. Relhan.—*Stem* 9 to 15 inches high, firm, above naked, yellowish green, and nearly cylindrical. *Leaves* 3 or 4, spear-shaped, pale green, shining, with numerous longitudinal veins, the intermediate space covered with a thin, somewhat puckered, pellucid skin, giving a silvery hue. *Floral-leaves* strap-spear-shaped, keeled, much longer than the germen, pale yellowish green. *Flowers* thinly scattered, 4 to 15, having much more the appearance of a fly than those of *O. apifera* of a bee.—*Petals*, the 2 *inner* expanding, deep reddish brown, fringed with short hairs, cloven at the base, fixed to the upper lip of the nectary. *Nectary* the *upper lip* hooded, covering the stamens; the *lower* with 3 lobes, the side lobes strap-shaped, short, entire; the middlemost somewhat oval, bent back at the edges, divided by a deep angular notch into 2 lobes, reddish brown, with a velvety down, with a blueish naked spot in the centre. Woodward.—The blue spot upon the base of the middle segment of the nectary lip, contributes much to its resemblance to a fly.

*Fly Orchis*, or *Twayblade*. *O. insectifera* myodes. Linn. —Meadows and pastures in a calcareous soil. Cambridgeshire, Suffolk, and Essex. Chalk Hills near Northfleet, and near Croydon and Wrotham. [Bath Hills near Bungay, and Earsham Wood, Suffolk. Mr. Woodward.—In Plumpton Woods near Ulverston. Mr. Atkinson.—On the high ground at the back of the old well house, St. Vincent's rocks, Bristol.]

P. May, June.

Mr. Ray mentions a larger sort, found in a pasture near Pestingford, Suffolk, and Welling, Hertfordshire; Greenhithe, and in the old chalk pit near the white house by N. Gray. *R. Syn.* 379. But from the fig. of J. B. ii. 768, to which he refers, it will probably prove to be a different species.

**O.** Bulbs roundish: stem leafy: lip of the nectary with 5 lobes, the lobes bent in underneath. Huds. shorter than the petals. Woodward. — **apifera.**

*E. bot.* 383–*Curt.*–*Walc.*–*J. B.* ii. 767. 1–*Fuchs.* 560–*J. B.* ii. 766. 2–*Trag.* 783–*Vaill.* 30. 9–*Dod.* 238. 1–*Lob. obs.* 91. 2; & *ic.* i. 180. 1–*Ger. em.* 212. 3–*Park.* 1351. 5–*Ger.* 166. 13–*Pet.* 69. 2–*Matth.* 889. 2–*Flowers only, Vaill.* 30. 9.

*Stem* shorter than that of O. muscifera. *Leaves* and *floral-leaves* broader and shorter. *Floral-leaves* longer than the germens. *Petals* the 3 *outer* sometimes bent back, spear-shaped, as long as the germen, the 2 *inner* expanding, purplish on the inside, green without. *Nectary*, the *upper lip* lengthened out into a long hooked kind of proboscis, deep green, with cases for the stamens beneath; *lower lip* hairy, mottled with brownish purple and yellow; the 2 *upper and outer lobes* near the base, short, spear-shapen, at first bent upwards, afterwards bent back; the *middle lobe* very large, marked with 2 round yellow spots, the side lobes short, angular, the middlemost long, tapering to a point; point greenish yellow, bent back. Woodward.—*Lower Lip* rusty brown, very much resembling a small humble-bee, inversely egg-shaped; the *side lobes* bent down, woolly, the edges bent in, the upper angles loose and upright, resembling the wings of the bee. *Stamens* yellow, inserted into the upper edge of the summit, bursting when the flower is expanded from the membranaceous cases of the upper lip, and bending down on the surface of the summit, continuing fixed to its edge. *Anthers* club-shaped, compound, resembling those of the *Orchis*. *Germen not wreathed.* It agrees much more nearly to *Orchis* in its structure, and confirms the propriety of Haller's generic characters. St.

*Ophrys insectifera.* Linn.—*Bee Orchis*, or *Twayblade. Bee-flower.* Meadows and pastures. South side of Great Comberton, towards Wooller's-hill, frequent. Nash.—[Tedestone near Whitbourne, Worcestershire. Mr. Ballard.—Area of Carisbrook Castle, Isle of Wight: St.—About Earsham. Mr. Woodward, and Mulbarton, Mr. Crowe.—On the high ground behind the old Well House, St. Vincent's Rocks, Bristol, near where the O. muscifera grows, but less plentiful.] P. June.

aranifera. O. Bulb roundish: stem leafy: lip of the nectary roundish, entire, nicked, convex. Huds. longer than the petals. Mr. Woodward.

*Curt.*–*E. bot.* 65–*Lob. ic.* i. 179. 2–*J. B.* ii. 767–*Ger. em.* 212. 3–*Park.* 1350. 4–*Pet.* 69. 3–*Flowers only, Vaill.* 31. 15 *and* 16.

*Petals*, the 3 *outer* oblong, expanding, green; the 2 *inner* on the sides, strap-shaped, green, shorter. *Lip* large, coloured, silky; with a spot at the base, the spot with 2 lobes, shining,

smooth; with a blunt tooth projecting on each side of the spot; concave underneath, blackish purple above, green at the edge, herbaceous underneath. Huds.—Similar to *O. apifera*. *Stem* and *leaves* shorter. *Floral-leaves* narrower. *Flowers* smaller. *Petals*, the 3 *outer* oval-spear-shaped, blunt, greenish, much more short than the lip; the 2 *inner* strap-shaped, very short. *Lip* rolled in at the edges, not lobed, only slightly nicked at the end, hairy, except the spot towards the base, dusky, with greenish margins, green underneath. Mr. Woodw.—It is from the breadth of the lip, and its being marked with different shades of brown, that it derives its fancied resemblance to a spider.

*Spider Ophrys. O. insectifera.* ♃ Linn.—Haller supposes his Orchis n. 1266. β to be the O. apifera, and that in the more advanced state of its growth the middlemost segment turns back, and becomes this plant; but this segment is bent back in the O. apifera, even before the flower is fully expanded: not to mention that O. aranifera blossoms in May, and O. apifera usually not till July. Woodward.

Chalky meadows and pastures, as about Northfleet; and gravel pits, as in one in the open field near Great Shelford, and near Bartlow, Cambridgeshire. In dry pastures about Branham near Tadcaster. [Near Bury. Mr. Woodward.]

P. April, May.

## MALAX'IS. *Nectary* 1 leaf; heart-shaped, concave, inclosing the stamens and pistils.

M. Stalk 5-edged: leaves sheathing, battledore shaped. paludo'sa.

*E. bot.* 72—*Rose.* 2. 3—*Kniph.* 9.

*Bulbs* egg-shaped, bowed in, throwing out roots below, cohering downwards as a chain, with a small branch between them. *Stalk* 5-cornered, naked for the greater part of its length. *Root-leaves* 3 or 4, spatula-shaped, alternate, rough towards the end, especially on the upper surface. *Bunch* with numerous flowers. *Flowers* green yellow. Linn.—*Leaves* 2 or 3 from the root, and near the base of the stem half an inch long. *Stem* 3 to 4 inches high. *Spike* half as long as the stem. *Flowers* scattered. *Floral-leaves* spear-shaped, shorter than the fruit-stalks. Woodward.

*Marsh Twayblade. Ophrys paludosa.* Linn.—[Near Norwich. Mr. Pitchford.—Felthorpe Heath, Norfolk. Mr. C. Bryant and Mr. Crowe.—Cawston Heath near Norwich. Mr. Crowe.—Between Rusland Chapel and Thwaite Moss in Furness Fells. Mr. Jackson.—Norton Bog, Cannock Wood, Staffordshire. Mr. Bagot.]

SERA'PIAS. *Bloss.* 6 petals, expanding: *Nectary* egg-shaped, bulging: *Lip* egg-shaped: *Caps.* beneath, 1-celled, 3-valved.

latifo'lia. S. Leaves egg-spear-shaped, embracing the stem: flowers nearly horizontal: lip pointed, entire, rather shorter than the petals.

*E. bot.* 269–*Fl. dan.* 811–*Gunn.* ii. 5. 3 *to* 6–*Hall.* 40. 2. *at* ii. *p.* 154–*Flower only, Crantz.* vi. 1. 6.

*Spike* many-flowered, long. *Fruit-stalk* long. Flowers and fruit pendant. *Nectary* without lines. LINN.—With a heart-shaped prominence at the base. HALLER.—*Leaves* and floral-leaves becoming gradually narrower as they ascend. *Spike* very long. *Germen* pear-shaped. WOODWARD.—*Root*, fibres thick, thread-shaped, hairy. *Stems* more or less of a brownish purple. *Leaves* all embracing the stem. *Spike* from 3 to 8 inches long. *Flowers* from 6 to 20, or more, much closer set than in the next species. *Cal.* leaves 3, brownish green, broad spear-shaped, keeled. *Petals*, the 2 lateral ones resembling the leaves of the calyx; purplish green. *Nectary*, the *upper lip* glandular, white, fleshy; the *lower* distended at the bottom into a nearly globular hollow; purple within, and of a brownish green without, towards the end flat, purplish, and somewhat scolloped. *Anthers* yellowish white, connected to their case by a milk-white globular substance. *Pistils* 2, white, fleshy, fixed on the glandular receptacle. *Capsule* inversely egg-shaped, bulging on the upper side, smooth, or nearly smooth.

*Common Helleborine. Bastard Hellebore.* Woods, groves, and hedges. [Common in the North Riding of Yorkshire, but I have, as yet, seen only one within 50 miles of Leeds. Mr. WOOD.—Matlock, Derbyshire, and northern counties, as Buckham Wood, Cumberland, and in an elevated situation at the foot of Conzick Scar, four miles from Kendal, amongst loose stones and rubbish, not accessible without some danger. Mr. WOODW. In the red rock plantation, Edgbaston Park.] P. July, Aug.

Var. 2. HUDS.—*Blossoms* blackish red. *Leaves* narrower, closer set. It flowers later. RAY.—*Leaves* variously oval-spear-shaped, much longer and narrower than in 1. *Flowers* very dark coloured. Corresponding exactly with *Fl. dan.* 811. except that the *spike* was much longer. WOODWARD.

Sides of mountains near Malham, Yorkshire. RAY.—Woods in Westmoreland and Cumberland. Mr. WOODWARD. P. Aug.

longifo'lia. S. Leaves spear-shaped, embracing the stem: flowers nearly horizontal: lip scolloped, blunt, longer than the petals.

*E. bot.* 270–*Hall.* 39. *at* ii. *p.* 154–*Fl. dan.* 267–*Pet.* 70. 8 –*Clus.* i. 273. 1–*Dod.* 384–*Lob. obs.* 169; *ic.* i. & 312. 1 –*Ger. em.* 442. 1–*Park.* 218. 4–*Pet.* 70. 5–*Flower only, Crantz.* vi. 1. 5.

Flowers as large again as in the preceding species. *Nectary* adhering to the other petals; the hollow part marked with purple lines. HALLER.—The outer half of the *lip* so slightly attached as to be shaken off by a small motion, and is often blown off by the wind while the plant is growing. Mr. WOOD.—*Flowers* mostly from one side of the stem. *Lip* divided transversely almost through; the half next the receptacle boat-shaped, with purple ribs, and at bottom with a yellow line, spotted with orange; the outer half hanging down, roundish, with an angular bulging appendage at the base, in which, previous to the expansion of the flower, the anthers were inclosed. *Germen* long and narrow, which, in S. *latifolia*, is short and inversely egg-shaped, when fully grown elliptical. WOODWARD.—*Leaves* sometimes egg-spear-shaped, with 7 ribs. Mr. HOLLEFEAR.—and sometimes egg-oblong and blunt. *Fruit-stalks* downy, thread-shaped. *Germens* downy, slightly scored, long, tapering down to the fruit-stalks, and a little towards the point. ST.—*Spike* about 4 inches long, flowers from 6 to 12, much wider set than in the preceding species. Fruit-stalk and germens woolly; the latter uniform, not bulging on the upper side.

The trivial names latifolia (broad-leaved) and longifolia (long-leaved) are ill applied to these plants, and instead of assisting, tend to perplex the investigator; but the different lengths of the lip, and the shape of the germens will always discriminate these 2 species; and should the woolliness of the fruit-stalk, the flower and the germens be constant in this last species, and always wanting in the first, as it is in the specimens now before me, their distinctions will be always obvious at first sight.

*Marsh Helleborine. S. palustris. E. bot.* Marshy and watery places. Bogs at Chisselhurst. RAY.—Dry chalky ground, as in the old chalk pits by the White House, between Eltham and North Cray. SHERARD in *R. Syn.*—[Plentifully in one morassy spot of 2 or 3 acres, within a mile of Leeds, and hitherto I have observed it no where else. Mr. WOOD.—Swampy meadows Robison's street, on the borders of Malvern Chace, Worcestershire. Mr. BALLARD.—Bogs in Norfolk, frequent. Mr. WOODWARD.—Knutsford Moor, Cheshire. Mr. AIKIN.]

P. July, Aug.

S. Leaves sword-shaped, pointing from 2 opposite lines: floral-leaves very minute: flowers upright: lip of the nectary blunt, shorter than the petals. ensifolia.

*E. bot.* 494.–*Fl. dan.* 506.

*Root*, fibres many, thickish. *Stem* sometimes more than a foot high, upright. *Root-leaves* long, narrow, pointed, resembling those of reeds; *stem-leaves* narrow. *Flowers* white, 8 or 10, in a loose spike. RAY.—*Stem* a foot high, sometimes slightly twisted. *Stem-leaves*, the longest 6 inches long, half an inch wide, bright green, smooth, shining, with 5 or 7 principal ribs, the lower embracing the stem, the upper sitting, alternate, and pointing from 2 opposite lines. *Seed-vessels* upright, elliptical, but from the projecting ribs appearing 3-cornered, longer and narrower than those of *S. longifolia*. WOODWARD.

*S. longifolia*, β HUDS.—*Sword-leaved Helleborine*. Under Brackenbrow or Brackenuray, opposite Helk's Wood. In the end of a wood where *Cypripedium Calceolus* grows, one mile from Ingleton, Yorkshire. *R. Syn.*—[Lord Lonsdale's woods, at Lowther, Westmoreland. Mr. WOODWARD.—Abberley Hill, Worcestersh. Mr. BOURNE.]

grandiflo'ra. S. Leaves egg-spear-shaped: floral-leaves as long as the capsule: flowers upright: lip of the nectary blunt, shorter than the petals.

*Dicks. h. s.-Hall.* 41. *at* ii. *p.* 155-*E. bot.* 271-*Ger.* 358. 2-*Pet.* 70. 7-*H. ox.* xii. 11. 12.-*Flower only, Crantz.* vi. 1. 4.

*Flowers* white, large, and, as is the *fruit* also, upright. *Lip of the nectary*, marked with prominent lines. HALL.—Near a foot high. *Spike* short; flowers few.

*White Helleborine. Serapias lancifolia.* GMELIN.—Woods and thickets, near Stoken Church, Oxfordshire; about Marlow, and in Bedford and Buckinghamshire. [Mr. Knight's Walks, Wolverley, Worcestersh. ST.—Woods near Uley. Mr. BAKER.]
P. May, June.

ru'bra. S. Leaves sword-shaped: flowers upright: lip of the nectary acute.

*E. bot.* 437-*Fl. dan.* 345-*Hall.* 42. ii. *at p.* 157-*Clus.* i. 273. 2-*Ger. em.* 442-*Park.* 218. 8-*J. B.* iii. 517. 1-*H. ox.* xii. 11. 5-*Ger.* 358. 3.

*Flowers* purplish red, 5 or 6 in a loose spike.
Thickets on the sides of mountains about Clapham and Ingleton, Yorkshire. P. June.

CYPRIPE'DIUM. *Nectary* bellying, inflated, hollow.

C. Roots fibrous: leaves egg-spear-shaped, those on the stem alternate. calce'olus.

*Hall.* 43. *at* ii. *p.* 157–*Gmel.* i. 1–*Mill.* 242–*Clus.* i. 272–*Dod.* 180. 2–*Lob. ic.* i. 312. 2–*Ger. em.* 443. 2–*H. ox.* xii. 11, 14–*J. B.* iii. 518–*Dod.* 180. 1–*Ger. em.* 443. 1–*Park.* 217. 3–*Ger.* 359–*Pet.* 70. 4.

*Petals* 4, disposed crosswise, purple, slightly downy, with parallel veins; the upper broader, the 2 lateral ones narrower, the 4th the shortest, hanging over the opening of the lip. *Lip* curved, rounded at the bottom, the edges contracted, resembling a wooden shoe, pale yellow, marked within with deep orange hairy lines. *Capsule* upright, about an inch long, somewhat prism-shaped, with 3 flat sides, and 3 ribbed angles. Woodw.

*Ladies-slipper.* Woods and thickets, but rather rare. Woods in Lancashire; and Helk's Wood by Ingleborough, Yorkshire. Ray.—Woods about Clapham and Ingleton, Yorksh. Huds. —Woods and hilly pastures in the neighbourhood of Kilnsay, Yorkshire. Curt. — Woods about Kilsey Crag Wharfdale, Yorkshire. Mr. Wood.—I searched for it in vain in Helk's Wood, a gardener of Ingleton having eradicated every plant for sale. Mr. Woodward. P. July.

LEM'NA. Male. *Cal.* 1 leaf. *Bloss.* none.
Fem. *Cal.* 1 leaf: *Bloss.* none: *Style* 1.
*Caps.* 1 or 2-celled; 1 or 2-seeded.

L. Leaves on leaf-stalks, spear-shaped. trisul'ca.

*Mich.* 11. 5–*J. B.* iii. 786. 1–*Lob. ic.* ii. 36. 1–*Ger. em.* 830. 2–*Park.* 1216. 9–*Ger.* 681. 2.

*Stems* flatted and proliferous; crossing each other, thus resembling in its mode of growth the *Cactus Opuntia*, or Indian Fig. Linn.—*Leaf-stalks* issuing from the edge of another leaf, from a fissure parallel to the sides of the leaf.—*Capsule* egg-shaped, pointed, sitting on the upper surface of the leaf; much resembling those of the *Riccia fluitans*. Mr. Evans, March 5, 1797.

*Ivy-leaved Duckmeat.* Ditches and stagnant waters. A. June—Sept.

L. Leaves sitting, flattish on both sides: roots solitary. mi'nor.

*Ray* 4. 1. *at p.* 150–*Mich.* 11. 3, *Lenticularia–Vaill.* 20. 3–*Blackw.* 380–*Gars.* 336–*Trag.* 690–*Dod.* 587. 1–*Lob. obs.* 648. 1; & *ic.* ii. 249. 1–*Ger. em.* 829. 1–*Park.* 1262. 1–*Ger.* 680–*Matth.* 1115–*J. B.* iii. 773. 2.

Flowers every year during the dog days. LINN.
*Least Duckmeat. Greeds.* Pools. A. June—Sept.

gib'ba. L. Leaves sitting, hemispherical underneath: roots solitary.

*Mich.* 11. 1. 2. 3; *Lenticula-J. B.* iii. 773. 3.

*Capsule* with 2 cells, containing 2 seeds, somewhat compressed, and a little depressed in the middle, more globular when fuller advanced. WIGGERS.—Differs from the *L. minor* in having the leaves inversely egg-shaped, narrowest where they are joined together, the upper surface slightly convex and generally tinged with purple; the under surface very convex, white, of a reticulated spongy appearance, and filled with water, something resembling the internal structure of Scirpus lacustris, but not so regular. Mr. WOODW.—*Roots* thread-shaped, from the centre of the under side of the leaf. *Leaves* 3, 4, or 5 together, one growing out of the edge of the other, oval, convex also on the upper side, the under side porous, resembling pith.—Mr. GOUGH observes, that being intended to grow in ponds which fail in dry seasons, it may be recovered by moisture after being apparently dead. Some which he exposed for ten hours to the sun in July, revived when replaced in water.

*Gibbous Duckmeat. L. minor gibba* β HUDS.—Ditches and ponds. [Lower Bishop's pool, Northwick, near Worcester, and in a pool near the East side of Malvern Chace, Worcestershire. Sept. 8, 1776. ST.] A. July, Aug.

polyrhi'za. L. Leaves sitting: roots crowded.

*Ray* 4. 2. *at p.* 150-*Vaill.* 20. 2-*Mich.* 11. 1, *Lenticularia.*

Floats on the surface of the water on the appearance of the swallows, and sinks under water when they disappear with us. LINN.—Leaves green above, purple underneath. It is so difficult to detect any of the species in flower, that some very able and experienced botanists have concluded that the Genus should be removed to the Cryptogamia Class; but I have examined some of them in a flowering state, and can bear witness to the accuracy of Michelis's figures.

*Greater Duckmeat.* Ditches. A. May. Sept.
Ducks and geese are fond of all the species.

SA'LIX. *Catkin* each scale containing 1 flower: *Bloss.* none.

Male. A nectariferous gland at the bottom of the flower.

Female. *Style* cloven: *Caps.* 1 cell; 2-valves: *Seeds* downy.

(1) *Leaves smooth, serrated.*

S. Leaves strap-spear-shaped: upper leaves oblique; cat-kins downy; flowers with 1 stamen. mon'dra.

*Hoffm. sal.* i. 1. *and* 5. 1–*Fuchs.* 334–*Ger. em.* 1389. 2.

A shrub, somewhat taller than a man. *Branches* rod-like, exceedingly tough, in the spring deep purple, often of a blood coral red without. *Inner Bark* of a brimstone colour. *Leaf-buds* both above and beneath the flower-buds, each containing 3 leaves applied transversely to the stem. *Flower-buds* beneath the ends of the branches. *Catkins* cylindrical, with 2 leaves. *Scales* brown, hairy. LINN.—Main stem smooth, ash-coloured, with transverse cracks. Branches shining as if varnished, with grey or crimson spots here and there. Male *catkin* downy, cylindrical, blunt, at first pointing horizontally, then downwards; on very short fruit-stalks. Female *catkin* smaller than the male, about 1 inch long. *Leaves* egg or strap-spear-shaped, narrower, and very entire at the base, broader and serrated upwards; smooth and fine green, underneath glaucous, often cottony, but this is not permanent. HOFFMAN.

*Rose Willow. Purple Willow. Salix purpurea.* LINN.—*Salix Helix.* LINN.—Hedges, watery places, and sides of rivers, osier beds. [Thorpe meadows near Norwich. Mr. CROWE.]

S. April, May.*

S. Leaves oblong-spear-shaped: flowers with 3 stamens. LINN. sometimes 2. HUDS. trian'dra.

*Hoff. sal.* i. 9. *and* 10; *Foliage* 23. 2–*Gmel.* 1. 34. 3.

Six feet high, or more; but seldom assuming the appearance of a tree. *Bark* smooth; yellow green or greenish; branching from every part. Branches upright, the upper ones shortest, often spotted with red. Male *catkins* conical, changing to cylindrical, upright, 1 inch long, 1½ inch when old. Fruit-stalk ½ inch long. Nectaries 2. Fem. *catkin* slender, upright, 1 or 1½ inch long. Fruit-stalk 1 inch long. *Leaves* egg-spear-shaped, tapering to a point; lower ones egg-shaped, large, thickish, dark green above, paler underneath, serrated. HOFFM. —*Leaves* 1 to 3 inches long; on leaf-stalks. HUDS.—The male plant very frequent; the female I have seen only once. Mr. WOOD.

* Baskets, cradles, and all sorts of twig-work, are made of its long, slender, and flexible shoots.—The ends of the branches often produce rose-like excrescences, which are caused by an insect. HOFF.

Var. 1. Ray mentions a variety which casts its bark. Miller thinks this a distinct species, and gives for a character: "Leaves serrated, smooth, spear-shaped, all alternate;" but he has not described the flowers.

*Smooth Willow.* Woods, hedges and banks of rivers. [About Leeds. Mr. Wood.—Lakenham near Norwich. Mr. Crowe.]

S. or T. April.*

pentan'dra. S. Leaves egg-shaped, acute: flowers with 5 stamens.

*Dicks. h. s.–Gmel.* i. 34. 1–*Fl. lapp.* 8. 2. *a leaf only.*

From 6 to 10 feet high. *Branches* yellowish purple. *Buds* consisting of 2 opposite valves, sending out both catkins and leaves. *Leaves* yellowish green; the teeth at the edges pour out a yellow gum, so that put fresh into a book and compressed, there remain as many yellow dots on the paper as there are teeth in the leaf. *Catkins* very yellow. Linn.—Sweet scented. Lightf.—*Leaves* glossy, in hot weather exhaling an odoriferous perfume. Curt.—*Catkins* terminating the new shoot of the year, and not appearing until May. Mr. Stackhouse.—*Nectaries* 3, yellowish brown, 2 next the spike-stalk, and the 3d next the scale. St.—Small *branches* alternate. *Leaves* egg-spear-shaped; 11 on the barren and 6 or 8 on the fertile shoots; the 2 lower leaves comparatively small and inversely egg-shaped. *Nectaries* often wanting in the flowers in the extremity of the catkin, in room of which there are 3 additional, perfect stamens. Common about Kendal. Mr. Gough.—Sometimes grows to the size of a tree, 12 feet high or more.

*Sweet Willow. Bay-leaved Willow. S. pentandra.* Fl. Lappon. *S. hermaphroditica.* Linn. Sp. pl. It yet remains to be determined whether the S. pentandra β of Fl. suec. be a native of this country.—Woods and hedges. In the North of England, and Coomb Wood, Surry.—About Kilnsay and Carr End Wensledale, where it is the most common species. Curt.—[Near Bungay, Suffolk, frequent. Mr. Woodward.—On the side of a wet ditch, on the outside of some gardens without the East gate, Stafford. St.—Plantations at Mr. Boulton's, Soho.]

S. April.†

vitelli'na. S. Leaves egg-spear-shaped, acute, smooth above; serratures like gristle.

* The bark in doses of 1 or 2 drams will cure agues. *Med. Comm.* v. 298.

† The wood crackles greatly in the fire.—The branches are cut to make springles.—Sheep and goats eat it.—The leaves dried afford a yellow die. Linn. St.—Much used in Yorkshire for making the larger sort of baskets. Curt.

*Hoffm. sal.* i. 11 & 12; *Foliage* 24. 1–*Munt.* 12–*Fuchs.* 335.

A middle-sized tree; much branched at the top; branches upright. Bark of the tree grey, chopped, cinnamon coloured within, bitter and astringent. The Female plants when left to themselves, have pendant branches, but when lopped, stiff and straight. Male *catkins* at first upright, then turned down; cylindrical, slender, serpentine, 2 inches long, or more; on fruit-stalks ½ an inch long. *Stamens* 2. *Nectaries* 2. Female *catkins* 2 to 3 inches long, on fruit-stalks 1 to 1½ inch long. *Leaves* alternate, upright, slightly serrated; mid rib yellowish; about 3 inches long and 1 broad, but always broader in the female plant. Leafits 3 or 4 lines long. HOFFMAN.—Perhaps if this was neither cultivated nor cut, it might degenerate into *S. alba.* HALL.

*Yellow Willow.* Osier holts, frequent. T. May.*

S. Leaves spear-shaped on leaf-stalks: stipulæ irregularly 4-sided. amygdali'na.

*Park.* 1430. 5–*J. B.* i. *b.* 215. 1.

Very closely allied to *S. triandria,* but the leaves broader and different. The stipulæ vary very much in this genus. Differs from *S. fragilis* as follows: a shrub. *Branches* red. LINN.

*Almond-leaved Willow.* Willow beds and banks of rivers.

S. April, May, likewise in August, as observed by Dillenius, and since by PULTENEY.

S. Leaves egg-spear-shaped: leaf-stalks toothed with glands. fra'gilis.

*Woodv.* 198–*Hunt. Evel.* 245. i. *p.* 238. *ed.* II. *Fl. lapp.* 8. 6. *a leaf only.*

A tall *tree.* The *branches,* if struck with a finger, break off at the shoot of the present year. *Fruit-stalks* with 2 or 3 leaves at the base, often falling off. LINN.

*Crack Willow.* Woods, hedges, and banks of rivers. [Near Shottisham, Norfolk. Mr. CROWE.] T. Apr. May.†

S. Leaves egg-shaped; semi-transparent. myrsini'tes.

*Hoffm. sal.* i. 17. 18. 19. *and Foliage* 24. 2–*Fl. dan.* 1054–*Fl. lapp.* 7. 6. *Leaves only*; 8. *e. f.*

* The shoots are used by crate and basket-makers. The wood is white, and very tough.

† It will thrive in most kinds of soil, if they are sufficiently moist. It is a quick grower, and bears cropping. The White Satin Moth sometimes eats all its leaves. The bark in doses of 1 or 2 drams will cure agues. *Med. Comm.* v. 298.

A shrub, some feet in height; bark smooth, dark brown or blackish. *Branches* upright but spreading. Male *catkins* crowded, oblong, or egg-oblong, 1 to 1½ inch long, on short fruit-stalks. *Stamens* 2: *nectary* 1. Female *catkins* shorter than the other when in flower, egg-oblong. *Caps.* on a pedicle, very smooth. *Leaves* during the flowering, egg or inversely egg-shaped, smooth on both sides, thin and nearly transparent, finely and acutely toothed, on short stiff leaf-stalks. Afterwards 1 inch broad, more than 1 inch long, both sides of the same colour, serrated all round, pointed at the end. *Leafit* often 1½ inch long, furnished with stipulæ of a squarish irregular figure, and serrated. HOFFMAN.

*Whortle-leaved Willow.* On the slope of a high hill between Kilhlay and Arncliff, Yorkshire. CURT.—[Banks of a brook by the road side at the foot of Orton Scar. Mr. GOUGH. On Ceraig Vou, Breadalbane. Mr. BROWN.]

arbus'cula. Leaves somewhat serrated, smooth, semi-transparent, glaucous underneath. Stem rather woody.

PLATE XXXII. *Fl. lapp. t.* 8. *f. e. and m. Leaves only.*

This plant changes wonderfully in the garden, there growing 5 or 6 feet in height. LINN.—Edges of some leaves *smooth*, and others *serrated* on the same plant.—This new acquisition to the British Flora was first discovered in Scotland by Dr. WALKER, and has been lately found on the banks of the river Isla in Angushire, and at the foot of Ben Lawers by Mr. BROWN.

herba'cea. S. Leaves circular.

*Hoffm. sal.* i. 20—*Fl. lapp.* 7. 3. *male*; 8 *h. a leaf—Fl. dan.* 117—*Fl. lapp.* 7. 4, *female—Pluk.* 436. 7.

The smallest *tree* I am acquainted with. *Branches* hardly an inch long, and with seldom more than 3 leaves. *Leaves* nicked at the base. *Leaf-scales* none. *Fruit-stalk* from the same bud with the leaves. *Pistils* smooth. *Flowers* yellow. LINN.—*Stem* about 1 inch high; bark ash-coloured or brown. *Branches* irregular, knotty, striking root. Male *catkins* terminating, upright, some lines in length, on fruit-stalks as long as themselves. Stamens 2; nectaries 2. Fem. *Catkins* terminating, shorter than the male, on fruit-stalks of the same length. *Leaves* roundish or egg-shaped, very minutely serrated; the largest near 1 inch diameter; blunt, or slightly notched at the end; smooth; on leaf-stalks. Hardly to be called herbaceous; it is rather hard and woody. Horses and cattle are fond of it.—HOFFMAN.

*Herbaceous Willow.* On the sides of Snowdon, and on the mountains of Westmoreland, Yorkshire, and Scotland. [Among

the highest rocks of Snowdon. Mr. Wood.—Summit of Skiddaw, and other mountains in the North. Mr. Woodward.]
S. July.

S. Leaves somewhat serrated, inversely egg-shaped, very blunt. retu'sa.

Pl. XXXII.—*Gmel.* 1. 35. 2.—*Cam. epit.* 108. *both bad.*

Nearly as small as the S. *herbacea*. Leaves with parallel veins. Linn.—Creeps on the ground. *Leaves* smooth, shining, elliptical; the lower and the younger leaves quite round; those on the longer branches spear-shaped and serrated. *Catkins* smooth; scales large, egg-shaped, blunt, smooth. *Stamens* 2: flowers very few. Haller.

First discovered in this kingdom by Mr. Dickson, on rocks upon Ben Lawers, in Scotland.

(2) *Leaves smooth, very entire.*

S. Leaves egg-shaped, blunt. Linn. reticula'ta.

*Hoffm. sal.* ii. 25. 26. 27–*J. B.* i. *b.* 217, *S. pum. fol. rot.*–*Fl. dan.* 212, *leaves only*–*Fl. lapp.* 7. 1, *and* 2–*ib.* 8. *l.*

A little larger than *S. herbacea*. *Stem* purplish, scarcely a finger's length. *Buds* nicked at the ends with 3 leaves. *Leaves* on leaf-stalks, thick, large compared to the stem, obscurely hairy when fresh, above green, wrinkled and shining, sea-green, and with a net-work of veins underneath, the veins at first red, at last green. *Spike* from the same bud with the leaves, blue. *Stipulæ* none. *Capsule* with very fine whitish soft hairs. Linn.—A shrub, not much more than a finger's length; prostrate. Male *Catkin* mostly terminating, rather woolly, an inch long, on a long, slender fruitstalk. *Stamens* 2. *Nectary* double. Fem. *Catkin* terminating, seldom more than 1 on a branch, cylindrical, rather longer than the male; on a very long fruitstalk. *Leaves* on leafstalks, egg-shaped or elliptical, either pointed, or rounded, or notched at the end; thick, rigid, very entire; when fully grown smooth on both sides, but marked with a network of veins. Hoffman.

*Network Willow.* Mountains of Wales. Yorksh. Cumberl. and Scotland. S. May.

S. Leaves strap-spear-shaped, acute. Huds. ru'bra.

*Branches* greenish, tending to red. *Leaves* like those of *S. viminalis*, but wholly green. *Buds* reddish. *Catkins* at first red, afterwards greenish yellow. Ray.

*Red Willow.* Willow beds, but not common. Osier holt between Maidenhead and Windsor, on the side of the river near Salisbury. T. April, May.*

Mr. Hudson introduced this species, seemingly upon the authority in Ray's Syn. without having seen it himself; and as we have no further account of it, it is probably only a variety of the S. viminalis, though Hoffman conjectures it may belong to the S. monandra.

(3) *Leaves very entire, woolly.*

auri'ta. S. Leaves woolly on both sides, inversely egg-shaped, furnished with appendages.

*Hoffm. sal.* i. 4 *and* i. 5. 3–*foliage* i. 22–*Fl. lapp.* 8. *y; a leaf only.*

A shrub, a few feet high; covered with a greyish smooth bark, not cracked. Branches numerous, spreading, smooth, tough, blackish brown. M. *Catkins* upright, egg-shaped, blunt, half an inch long or more, 3 or 4 lines broad. *Fruit-stalk* short. *Stam.* 2. *Nectary* single. Fem. *Catkins* upright or expanding, egg-oblong, or cylindrical, blunt, ½ to 1 inch long, and half as broad, on longer fruitstalks. *Leaves* roundish, or inversely egg-shaped, very entire but sometimes waved at the edge; blunt or with a short taper point at the end; dark green above, somewhat woolly; paler, cottony and reticulated underneath. *Leafstalk* short, cylindrical, cottony. *Stipulæ* 2 at the base of each leafstalk, kidney-shaped, scolloped and toothed. *Leaves,* when young, soft, even, an inch long; when old, rigid, wrinkled, and 2 inches or more in length. Sometimes flowers in the autumn as well as in the spring. HOFFMAN.

*Salix caprea* β HUDS.—*Round-eared Willow.* Woods and hedges. Dry mountainous heaths. HUDS.—[Frequent about Bungay, Suffolk. Mr. WOODW.] S. May, June.

The shoots are slender, and tolerably flexible.

lana'ta. S. Leaves woolly on both sides, roundish, acute.

*Fl. Rosf.* i. 81. 1–*Leaves only Fl. lapp.* 7. 7; *and* 8. *x.*

Leaves crowded, egg-shaped, woolly on both sides, very entire, nearly sitting. RAY.—Shrub a span high, trunk hardly a finger's length, very much branched, branch ends covered with silky down. *Leaves* thick, egg-shaped, rather pointed, entire, sitting, densely clothed on both sides with a silvery white silky down. *Stipulæ* on the extreme branches, egg-shaped, pointed, woolly.

* The twigs are much sought after by basket makers, gardeners, &c. *R. Syn.*

*Female Catkin* large, lateral, on a fruitstalk, with 1 or 2 leafits. *Caps.* white with down. Fl. Ross.—The plant thus described by Prof. Pallas is certainly the S. lanata of the Fl. suecica, but cannot be the plant of Lightfoot, ii. 602; so that it is yet a doubt whether the real S. lanata be a native with us or not. Mr. Lightfoot's description does not accord much better with the S. glauca, so that the plant found by Mr. Stuart at Finlarig still remains to be ascertained.

Vallies in the Highlands. Finlarig at the head of Loch Tay. Mr. STUART in *fl. scot.* S. May.

S. Leaves hairy, spear-shaped. lappo'num.

*Fl. dan,* 1058–*Fl. lapp.* 8. *t.*

Possibly only a variety of S. arenaria, differing only in the leaves being longer, more woolly above, and waved at the edge. In habit it is nearly allied to S. glauca; the leaves are cottony on both sides, but most so underneath. Fruitstalks furnished with leaves. Germens white and cottony. LINN.—Lower leaves spear-egg-shaped, but acutely pointed; about 1 inch long; upper ones twice as long.

*Lapland Willow.* Highland mountains. Crey-chaillich and Mal-ghyrdy, Breadalbane. Mr. STUART.—Not far from the marble quarry near Porta-currach in Icolmkill. *Garnett's tour.* S. June.

S. Leaves egg-oblong, smooth above, silky underneath. re'pens.

*Hoffm. sal.* i. 15 *and* 16; *S. depressa–E. bot.* 183–*Clus.* i. 85–*Dod.* 843. 2–*Ger. em.* 1391. 6–*Park.* 1433. 2 *and* 3–*Ger.* 1205. 6–*J. B.* i. *b.* 216. 2.

The smallest of our common Willows, and indeed scarcely larger than *S. herbacea,* the points only of the branches appearing above ground. *Stem* of the thickness of a finger. *Branches* rod-like, drooping; the lesser branches sprinkled with white soft hairs. *Leaves* egg-shaped, or egg-oblong, smooth on both sides, sea green underneath, on leaf-stalks, the lowermost transversely opposite, and somewhat hairy. *Leaf-scales* none. *Catkins* lateral. *Capsules* reddish. LINN.—Root thick, creeping, knotty, wrinkled, blackish. *Branches* some trailing, others upright, from 3 to 7 inches long, tough, knotty, smooth, reddish or dirty green yellow when old, greyish and cottony when young. HOFFMAN.—Male *Catkins* about $\frac{1}{2}$ inch long, and $\frac{1}{4}$ broad, F. *Catkins* rather smaller. *Leaves* $\frac{1}{2}$ to $\frac{3}{4}$ inch long, $\frac{1}{5}$ of an inch broad, strap-spear-shaped.

*Creeping-Willow. Salix repens* β Hudson.—*S. humilis,* Ger. em. 1391. ST.—*S. depressa.* HOFFMAN SAL.

Wet sandy heaths. Putney-Heath, in a wood by West Wickham, and Addington near Croydon. [Boggy meadows fre-

quent. WOODWARD.—Boggy parts of Charley forest, Leicestershire. PULTENEY.] S. April, May.

Var. 2. *Salix repens* α HUDS.—*Clus.* i. 86. 2–*Ger. em.* 1391. 8–*Park.* 1435. 3. Either this or a variety of it, with leaves silvery on both sides, was found near Sandwich, Kent. *R. Syn.*

fus'ca. S. Leaves egg-shaped, pubescent underneath.

*Hoffm. sal.* ii. 28 *and* 29–*Jacq. austr.* 409–*Lob. adv.* 423. *ic.* ii. 138. 1–*J. B. b.* 217. 1–*a young branch, Ray Syn.* 19. 3–*a leaf, Fl. lapp.* 8. *r.*

A small *shrub*, very low, creeping. *Leaves* very small, blunt, nearly sitting, alternate, smooth and green, and at length of a blackish green above, underneath sea-green and shining, with very fine scattered white silky hairs. *Catkins* without leaves, several, at the end of the last year's shoots, generally turning blackish. *Buds* of 1 valve, divided. *Scales* brown. *Stamens* yellowish. *Salix arenaria, incubacea, repens,* and *fusca,* are very closely allied. LINN.—About 5 or 6 inches long. *Root* thick, fibrous, brown. *Branches* several, knotty, trailing, bark dull reddish or greyish brown, often putting forth roots. M. *Catkins* terminating, scattered, egg-oblong, near ½ inch long, black purple, with soft white hairs. *Fruitst.* long, cylindrical, woolly, furnished with 3 to 5 leafits, silky at the edge and on the back. *Stam.* 2. *Nect.* 1. F. *Catkins* fewer, scattered, upright, egg-oblong, on fruit-stalks which continue to grow longer. *Leaves* crowded, firm, upright, very entire, egg-spear-shaped, rather acute at both ends, but sometimes rounded, broader and blunt, smooth, rather shining, dark green, reticulated, transparent when viewed against the light. *Leaf-stalk* smooth, short. HOFFMAN.—*Leaves* when young covered with a silky down, especially on the back and at the edge, as in Ray's figure; but this vanishes with age. The readiest mark of distinction betwixt this and the preceding species, is the Catkins being on the sides of the branches in the S. repens, and terminating in the S. fusca.

*Sand Willow. Brown Willow. S. repens* β HUDS.—*S. arenaria.* LIGHTF.—I am indebted to Dr. Smith for the knowledge that the S. arenaria of our authors is no other than the S. fusca of Linn. See *E. bot.* p. 183. [Between Southampton and Wincher. ST.] Sea shores amongst loose blowing sand, as in Cantire, between Macrianesh and Bar. LIGHTF.—On the slope of an high hill between Kilnsay and Arncliff, Yorkshire. CURT. S. May. July.

rosmarini-fo'lia. S. Trailing: leaves spear-strap-shaped, stiff and straight, nearly sitting, cottony underneath.

*Lob. obs.* 568. 1. *ic.* ii. 137. 2–*Park.* 1435. 4–*J. B.* i. *b.* 214. 2.

*Leaves* strap-shaped, pointed, underneath shining, silky, woolly. *Leaf-scales* none. LINN.—*Twigs* remarkably tough. Approaches nearest to *S. vitellina.* CURT.—The evidence of this being with us a native species, was far from satisfactory, but it is now inserted on the authority of Mr. Curtis, though Dr. Smith assures us that he has never seen a native specimen.

*Salix repens* ε HUDS. *Rosemary-leaved Willow.* Low fields. LINN.—Found amongst Mr. J. Sherard's dried plants, the place not named. *R. Syn.* On the edge of a rivulet which runs into Semer Water, Wensledale, Yorkshire. CURT.

S. Leaves spear-strap-shaped, very long, acute, silky underneath: branches rod-like. *Vimina'lis,*

*Hoffm. sal.* 1. 2. *and* 1. 5. 2. *Foliage* 1. 21. 2.–*J. B.* 1. *b.* 212. 2.–*Fuchs.* 336.—(Munt. 12, is S. vitellina, and Hunt. Evel. 245, S. fragilis.)

A slender and very tall *shrub. Leaf* and *flower buds* distinct, as in *S. Caprea. Leaves* rolled back at the edges before they are unfolded. LINN.—Sometimes *tree-like. Bark* greyish, smooth, with here and there a crack. *Branches* very long, straight, slender, tough. M. *Catkins* egg-shaped or oblong, 1 to 1½ inch in length, 3 or 4 lines in breadth, on very short fruit-stalks. Stamens 2. Nectary 1. F. *Catkins* egg-oblong or cylindrical, 1 to 1½ inch long, ½ inch broad, on fruit-stalks 2 lines long. *Leaves,* especially the lower ones, a span long, or more; waved at the edge.* The leaves being silvery underneath, the nectary in the male flower being long and slender, and the style in the female flower being very long, are sufficient to distinguish this and its varieties from the other species. HOFFMAN.—*Leaves* above deep shining green, underneath greyish, closely beset with very fine short hairs lying close to the substance of the leaf. *Leaf-stalks* about half as long as the breadth of the leaf. A small tongue-shaped, glandular substance fixed to the stem, just above the insertion of the leaf-stalk, in the upper part of which there is a hollow to receive it. *Leaf-scales* minute, 1 on each side of the base of each leaf-stalk.

* The edges of the *leaves* are rolled back, especially when young: when old they are waved, but *never serrated;* for which reason this species is now removed to the third division, from the fourth, where it formerly stood.

*Osier.* Willow-beds, woods and hedges, especially in moist boggy land. S. April, May.*

(4) *Leaves somewhat serrated, woolly.*

capre'a. S. Leaves egg-shaped, wrinkled, cottony underneath, waved, toothed towards the end.

*Hoffman. sal.* i. 3. 5. 4. *Foliage of the different varieties.* i. 21. 1–*Fl. dan.* 245–*Ger.* 1203. 3–*Ger. em.* 1390. 3–*Park.* 1432. 1–*a leaf, Fl. lapp.* 8. *s.*

No species of Salix requires such a dry soil as this does. It sometimes becomes a tolerable sized tree. *Branches* when young, palish, downy. *Buds,* the lower producing leaves, the upper catkins. *Leaves* slightly tapering to a point at each end, above green and scarce sensibly downy, underneath pale green with a very thin woolliness; edge marked with some notches, but not obvious unless carefully examined, but from the middle downwards evidently waved. Linn.—*Bark* ash-coloured, cracks very fine. M. *Catkins* egg-oblong, 1 to 2 inches long, often 1 inch broad, on short fruit-stalks, which are woolly, furnished with 8 to 12 leafits, in a double or triple series; the upper catkins flowering first. *Stam.* 2. *Nect.* 1. F. *Catkins* oblong or cylindrical 1 to 2 inches or more in length, ½ inch broad, on fruit-stalks which have 6 or 7 leafits. *Leaves* roundish, egg-shaped, inversely egg-shaped or egg-oblong; 4 or 5 inches long, about 3 broad, either smooth or downy above, dark green; bluish grey and cottony on the back, and marked with a network of veins. *Stipulæ* only to the uppermost leaves, roundish, finely scolloped. Gleditsch found on this species both male and female flowers, and others that were hermaphrodite. Hoffman.—*S. latifolia rotunda.* R. Syn. 449. This is introduced in order to enable the English botanist to determine whether it really exists with us or not, or whether the S. cinerea has not always been mistaken for it.

acumina'ta. S. Leaves egg-oblong, cottony underneath; upper ones entire, lower ones scolloped. (Hoffman. Miller.)

*Hoffm. sal.* i. 6–*Lob. ic.* ii. 137. 1–*Ger. em.* 1390. 4–*Park.* 1432. 2–*Leaf only, Fl. lapp.* 8. *u.*

A shrub about 6 feet high, often resembling a small tree. Bark smooth, ash-coloured, branches numerous, upright but expanding. M. *Catkins* egg or egg-oblong, 1 inch or more in

* The branches are much used for making hoops and the larger sorts of baskets. It is often planted to prevent the banks of rivers from being washed away by the force of the current; and it forms a hedge very useful in keeping off winds.—Horses, cows, sheep, and goats eat it. Linn. —Putcheons and wheels for catching eels, and bird-cages are made of the twigs. St.

length, ½ inch broad, blunt, on fruit-stalks about 2 lines long which have 4 or 6 spear-shaped scales. Stam. 2. Nect. 1, bellying below, with a slender tapering neck, lopped at the end. F. *Catkins* the size and shape of the other, on longer fruit-stalks. *Leaves* inversely egg-oblong, or egg-spear-shaped, either entire or a little serrated, 2 inches long and nearly 1 broad; those on the lower branches a little scolloped at the edge, dark green above, with little or no pubescence, cottony on the back, pale or glaucous and reticulated. *Stipulæ* kidney-shaped, waved, and toothed at the edge, seldom found on the upper leaves. This is an intermediate species between the S. caprea and S. aurita, but different from both. HOFFMAN.—Leaves long and pointed. RAY.

*S. Caprea* β Linn. and Huds. Thickets and wet places. About Oxford frequent. RAY.—[Kirkstall Abbey, Yorkshire.]

Var. 2. Leaves rounder and smaller.

In hedges near Chisselhurst are some trees of a considerable height. RAY.—On high and dryish heaths. HUDS.

S. Leaves oblong-egg-shaped, somewhat woolly underneath: stipulæ half-heart-shaped. cine'rea.

In woods more than 6 feet high; in exposed boggy ground it spreads more, but does not rise so high. *Stipulæ* in shape of half a heart, serrated; with 3 glands on each side. *Catkins* brownish, placed lower than the leaves. *Fruit-stalk* with some small spear-shaped leafits. *Leaves* egg-oblong, rude, greenish; veins on the back indistinct, rough with hairs; the edge serrated. LINN.—*Branches* tough, cylindrical, smooth, reddish. *Leaves* oblong-egg-shaped, a little woolly underneath. *Leaf-stalks* considerably shorter than half the breadth of the leaves, nearly cylindrical, with a gland on each, just above the base. *Leaf-scales* minute, 1 on each, at the base of the leaf-stalk. *Catkins* egg-shaped, 1¼ inch long, ¾ inch wide.

*Sallow Willow. Salix caprea*, HUDS. LIGHTF. &c. This is perhaps the most common of all our willows, as well in hedge-rows as in woods; and I never had a doubt of it being the S. caprea of Linnæus, until Mr. Afzelius convinced me to the contrary.

Woods and hedges, but not in dry soil. S. April.*

S. Leaves spear-shaped, tapering to a point, serrated, downy on both sides: the lowermost serratures glandular. al'ba.

* The Bark has been made into coarse paper and pasteboard. The wood is excellent for fuel, and also for stakes and hurdles in fences.

*Hoffm. sal.* i. 7 & 8. *Foliage* i. 24. 3.–*Blackw.* 327–*Matth.* 199–*Dod.* 843. 1–*Lob. obs.* 567. 2, *ic,* ii. 136. 2–*Ger. em.* 1389. 1–*Park.* 1430. 1–*Gars.* 508–*Ger.* 1203. 1–*J. B.* i. *b.* 212. 1–*Trag.* 1077–*Lon.* i. 25. 2. *b.*

This and *S. fragilis* are the largest of the species. LINN.—A tall straight tree, bark grey, cracked. *Branches* numerous, upright, but expanding, grey or brown green. M. *Catkins* cylindrical, blunt, $1\frac{1}{2}$ to 2 inches long, 4 lines broad, on *fruit-stalks* which are $\frac{1}{2}$ inch long. *Stam.* 2. *Nectaries* 2, 1 before the stamens inversely heart-shaped, the other behind them, and oblong. F. *Catkins* slender, cylindrical, 2 inches long, 3 or 4 lines broad; on fruit-stalks near an inch in length. *Leaves* sharply and elegantly serrated, shining but pubescent above, white and silky underneath. Inner bark green, but in the *S. vitellina* it is yellow. HOFFM.

*White* or *Common Willow.* Woods, hedge-rows, and wet meadow and pasture land. T. April.*

* It loves a moist and open situation; grows quick, and bears lopping. The wood is very white, and is therefore preferred for making Milk pails and Butter-firkins. It is also used for flooring, for chests and for boxes. It is light, tough and pliable.—The Rev. Mr. Stone, in the *Phil. Trans.* liii. p. 195, gives us an account of the great efficacy of the bark of this tree in curing intermitting Fevers. He gathers the bark in summer, when it is full of sap, dries it by a gentle heat, and gives a dram of it powdered every four hours between the fits. In a few obstinate cases he mixed it with one fifth part of Peruvian bark. It is remarkable that intermittents are most prevalent in wet countries; and this tree grows naturally in such situations. Whilst the Peruvian bark remained at its usual moderate price, it was hardly worth while to seek for a substitute; but now its price is more than double, and the supply from South America hardly equal to the consumption, we may expect to find it dearer and more adulterated every year. The *White* WILLOW Bark is therefore likely to become an object worth the attention of physicians, and if its success upon a more enlarged scale of practice proves equal to Mr. Stone's experiments, the world will be much indebted to that gentleman for his communication. The bark of *S. triandra* and *fragilis* have the same properties. A set of experiments should therefore be instituted to ascertain which of the species ought to be preferred.—This bark will tan leather. Horses, cows, sheep and goats eat the leaves and young shoots. The different species of it support the following insects: *Papilio Antiopa*, and *Polychloros; Sphinx Occellata, Populi; Phalæna Quercifolia, Rubi, Lanestris, Vinula*, Dismal Moth, *Phalæna Salicis, Phalæna Bucephala, Monarcha, Zicxac, Cossus*, Willow red-under-wing Moth, *Phalæna Pacta, Citrago*, Cream-bordered Pea-green Moth, *Phalæna Salicella*, Bushy Prominent Moth, *Phalæna Pavonia, Libatrix, Psi.* Willow Beauty Moth, *Tenthredo Lutea, Caprea, Rustica; Ichneumon Glomeratus; Aphis Salicis, Chrysomela Polita, Chrysomela Sericea; Curculio Nebulosus; Coccinella* 14 *Guttatus, Cicada Cornuta.* Large excrescences are frequently found upon the branches and leaves of Willows, these are habitations of different species of *Cynips.*—Whoever desires to shade a walk with willows, should set male plants only, or else they will soon multiply so as to form a thicket instead of a walk. The same observation holds good of the Poplar. Bees are very fond of the flowers.

The species of this genus are very difficult to make out. Soils of various kinds, as marshy, sandy, mountainous, and warm, have effected such wonderful changes on the species, that botanists have been often at a loss to what species they should refer several individual plants. Add to this, that the descriptions are altogether imperfect and unscientific. Their history, therefore, must be begun anew, in which case let the names of the old authors be rejected, lest dubious synonyms should occasion a confusion among plants in themselves distinct; and let the species be described in local histories, and literary collections, holding in view the following circumstances: 1. *Buds*, whether of 1 or more valves. 2. The *disposition and folding of the leaves* within the bud. 3. *Catkins*, whether from the same or a distinct bud, above or below the leaves. 4. *Leaves* serrated or very entire; their *surfaces* naked or woolly. 5. *Stamens*, their number. 6. Whether *Trees*, *Shrubs*, or creeping. LINN.—Much still remains to be done to clear up the species and varieties of Salix which this island produces, the genus therefore has a claim upon the particular attentions of such as wish to improve the botanical knowledge of their country.

FRAX'INUS. *Cal.* none, or with 4 divisions: *Bloss.* none, or with 4 petals.
Fem. and hermaphrodite flowers. *Pist.* 1. *Caps.* 2-celled, leaf-like upwards, compressed; 1 cell barren: *Seed* spear-shaped.

F. Leafits serrated: flowers without petals. excel'sior.

*Fl. dan.* 969–*Hunt. Evel. p.* 150; i. *p.* 145, *ed.* II–*Blackw.* 328–*Cam. epit.* 64–*Park.* 1419. 1–*Gars.* 97 *and* 277–*Dod.* 833–*Lob. obs.* 545. 1; *ic.* ii. 107. 2–*Ger. em.* 1472–*Matth.* 135–*J. B.* i. *b.* 174, *diseased excrescences, and no leaves.*

Some trees producing *flowers with stamens and pistils*, and others only *flowers with pistils*; but it often happens that the former hath some with only pistils intermixed; and the reverse. *Cal.* and *Bloss.* none. *Buds*, the lateral ones producing bunches, the terminating one leaves. LINN.—*Leaves* sometimes simple. HUDS.—In 3 specimens from 3 different trees, the 1st had hermaphrodite flowers, the 2d only male, and the 3d only female. ST.—*Leaves* opposite, on leaf-stalks; *leafits* sitting, 4 or 5 pair, with an odd one.

*Common Ash-tree.* Woods and hedge-rows. T. Mar. to May.*

Var. 2. Leaves simple. T. H. W. in Gent. Mag. vol. IV. p. 598.

* It flourishes best in groves, but it grows very well in rich soil in open fields. It bears transplanting and lopping.—Horses, cows, sheep and goats

There is no mention of the place of growth of this curiosity, but the sensible and intelligent reporter could not well be deceived about it.—This is clearly a distinct variety, and my friend Dr. Bostock has supplied me with specimens of it from a plantation near Liverpool.

## DIGYNIA.

ANTHOXAN'THUM. *Cal.* Husk of 2 valves, and 1 flower: *Bloss.* husk 2 valves, tapering to a point: *Seed* 1.

odora'tum. A. Spike oblong-egg-shapped: florets longer than the awns, supported on short fruit-stalks.

*Gram. pasc.–Curt.–E. bot.* 647–*Schreb.* 5–*Mill. ill.–Giseke.* 2–*Fl. dan.* 666–*Stilling. f.* 1. *out of bloss.–Mus. rust.* iv. 2. 3–*J. B.* ii. 466. 1–*Ander.*–*Barr.*–124, *single spike good–C. B.* 44. 1–*H. ox.* viii. 4. *row* 2. 25. *and* 7. *row* 3. 25–*Spike and fructification, Leers* 2. 1–*Seguier.* i. 4. 2–*Mont.* 84.

*Bloss.* double. The *outer* entirely different from that of any other of the Grasses, its outside covered to near the top with stiff brown hairs lying flat. The inner, which Linnæus calls the

goats eat it: but it spoils the milk of cows, so that it should not be planted in dairy farms. In the north of Lancashire they lop the tops of this tree to feed the cattle in autumn when the grass is upon the decline, the cattle peeling off the bark as food.—In a very dry summer the farmers about Cannock, Staffordshire, in default of grass fed their cows with the leaves. St.—In Queen Elizabeth's time, the Inhabitants of *Colton* and *Hawksheadfells* remonstrated against the number of forges in the country, because they consumed all the loppings and croppings, the sole winter food for their cattle. *Penn. tour* 1772. p. 29—When growing by the water side, and of some considerable age, its branches frequently hang down somewhat in the manner of the weeping willow. The roots run near the surface, and extend themselves to a great distance, whence it is destructive to the herbage of upland pastures, but if planted on the margins of the ditches, or low boggy meadows, the roots act as underdrains, and render the ground about them firm and hard; the wood is however in this case but of little value. Mr. Woodward.—It will give a good though not beautiful green to cloths which have been blued. St.—The wood hath the singular advantage of being nearly as good when young as when old. It is hard and tough, and is much used to make the tools employed in husbandry. The ashes of the wood afford very good pot-ash—The bark is used for tanning calf-skin.—A slight infusion of it appears of a pale yellowish colour when viewed between the eye and the light; but when looked down upon or placed between the eye and an opake object, it is blue. This blueness is destroyed by the addition of an acid, and alkalies recover it again.—An infusion of the leaves, from half an ounce to an ounce and a half, is a very good purge, and a decoction of 2 drams of the bark,

nectary, smooth, like the blossom of a Poa. Sm.—*Spike* not strictly so, on account of the lower florets having short fruit-stalks. *Filaments* short when the blossom first opens, afterwards very long. Before the expansion of the blossom the anthers are partly inclosed in the nectary. *Stem* with 2 or 3 short leaves; joints shining.

*Spring grass. Sweet-scented Vernal-grass.* Meadows and pastures, common. P. May, June.*

bark, or of 6 drams of the leaves, has been used to cure agues.—The seeds are acrid and bitter.—In the church-yard of Lochaber in Scotland, Dr. Walker measured the trunk of a dead Ash tree which at 5 feet from the surface of the ground was 58 feet in circumference.

The Leopard Wood Moth, *Phalæna Prasinana*, *Dominula*, and *Fraxini*; and *Chermes Fraxini* feed upon it.

* This is one of the earliest of our grasses, and is said by Linnæus to occasion the delightful smell of new mown hay. Mr. Curtis says that the leaves, rubbed betwixt the fingers, impart a grateful odour. Boccone says, a distilled water is prepared from it, as the vehicle of some perfumes. If it be gathered whilst in blossom, lapped in a paper and carried in the pocket, it retains the smell of new mown hay for a long time. Cows, goats, sheep, and horses eat it.—It abounds chiefly in wet lands, flourishing in a particular manner on peat bogs. Seems to be of little consequence to the farmer, as being neither very productive nor very palatable to cattle. The valves of the blossom adhere to the seed when it is ripe, and the jointed awn by its spiral contortions through the alternate moisture and dryness of the air, assisted by the awn and the hairs which cover the valves, which from the same cause act as so many levers, separate it from the receptacle, and lift it out of the calyx, at a time when the spike is necessarily kept in an erect situation by a throng of taller grasses surrounding them. A most curious and beautiful contrivance of nature, without which, or some similar provision, the seed, in wet seasons, would be apt to vegetate in the husks, and the young plants in consequence become abortive. Mr. Swayne.

# CLASS III.

# TRIANDRIA.

## MONOGYNIA.

(1) *Flowers superior.*

VALERIA'NA. *Bloss.* 5-cleft; bulging at the base: *Seed* 1.

BRYO'NIA. Stam. and pistil in separate flowers: *Bloss.* with 5 divisions.
Fem. *Style* 3-cleft: *Berry* somewhat globular; with many seeds.

RUS'CUS. Stam. and pistil in separate flowers: *Bloss.* none: *Nectary* central, egg-shaped, open at the top.

CRO'CUS. *Bloss.* resembling 6 petals, upright, open: *Summits* rolled in a spiral: coloured.

I'RIS. *Bloss.* with 6 divisions; 3 outer segments reflected: *Summits* like petals.

(2) *Flowers with valves like grasses, and husk-like calyxes. Hermaphrodite.*

NAR'DUS. *Bloss.* 2 valves: *Cal.* none: *Seed* covered.

ERIO'PHORUM. *Bloss.* none: *Cal.* chaffy scales, tiled: *Seeds* woolly. (Hairs longer than the calyx. HAL.)

SCIR'PUS. *Bloss.* none: *Cal.* chaffy scales, tiled: *Seed* naked, or woolly; 3-cornered: (Hairs shorter than the calyx, HALLER. All the scales fertile. SCOP.)

CYPE'RUS. *Bloss.* none: *Cal.* chaffy scales, 2-rowed: *Seed* naked.

SCHŒ'NUS. *Bloss.* none: *Cal.* chaffy scales, in bundles: *Seed* roundish: (Lower scales barren. SCOP.)

(3) *Flowers with valves like grasses and husk-like calyxes. Stamens and pistils in different flowers.*

CA'REX. *Catkin* spike-like, tiled with husks: *Cal.* 1 leaf: *Bloss.* none.

F. *Nectary* inflated; with 2 or 3 teeth: *Summits* 3, rarely 2: *Seed* 1, within the nectary.

TY'PHA. *Catkin* cylindrical: *Bloss.* none.
M. *Calyx* indistinct, 3-leaved.
F. *Catkin* under the male flowers: *Cal.* soft hairs: *Seed* 1, sitting on the hair-like down.

SPARGA'NIUM. *Catkin* roundish: *Cal.* 3 leaves: *Bloss.* none.
F. *Summit* 2-cleft: *Drupa* juiceless, with 1 or 2 seeds.

[Juncus conglomeratus, and effusus. Salix triandra.]

## DIGYNIA.

(1) GRASSES. *Flowers scattered*; 1 *in each calyx.*

PA'NICUM. *Cal.* 2 valves, 2-flowered: 1 floret male, and 1 hermaphrodite.

ALOPECU'RUS. *Cal.* 2 valves: *Bloss.* 1 valve, undivided at the end: *Nectary* none.

PHLE'UM. *Cal.* 2 valves; lopped, dagger-pointed, sitting.

PHA'LARIS. *Cal.* 2 valves, keeled, equal, including the blossom.

MI'LIUM. *Cal.* 2 valves; valves bellying, rather unequal; larger than the blossom.

CALAMAGROS'TIS. *Cal.* 2 valves, nearly equal: *Bloss.* with hairs at the base. GMELIN.

AGRO'STIS. *Cal.* 2 valves; valves acute, shorter than the blossom; (In all the English species longer.)

DAC'TYLIS. *Cal.* 2 valves: valves concave, keeled.

STI'PA. *Cal.* 2 valves: *Bloss.* 2 valves; outer valve ending in an extremely long awn, jointed at its base.

LAGU'RUS. *Cal.* 2-valved, woolly: *Bloss.* with 2 terminating awns, and another fixed to the back.

[Scirpus palustris; and fluitans. Schœnus compressus. Alopecurus monspeliensis and paniceus.]

(2) GRASSES. *Flowers scattered*; 2 *in each calyx.*

HOL'CUS. *Flowers*, hermaphrodite and male: *Cal.* husk 2 valves, with 1 to 3 florets.
M. *Bloss.* awned.
F. *Bloss.* awnless: *Seed* 1.

AI'RA. *Florets*, all hermaphrodite, without the rudiment of a third, *Cal.* 2 valves.

[Holcus mollis.]

ME'LICA. *Florets* all hermaphrodite, *Cal.* 2 valves. *Nectary* of 1 leaf, fleshy.

SESLE'RIA. *Involucr.* 2 leaves: *Cal.* 2 valves with 1 to 3 florets: *Bloss.* toothed at the end.

[Avena elatior, flavescens and fatua. Cynosurus. Dactylis glomerata.]

(3) GRASSES. *Flowers scattered, several in each calyx.*

BRI'ZA. *Cal.* 2 valves: *Bloss.* heart-shaped, valves blunt, bellying.

PO'A. *Cal.* 2 valves: *Bloss.* egg-shaped, valves sharpish.

FESTU'CA. *Cal.* 2 valves: *Bloss.* oblong; valves sharp-pointed.

BRO'MUS. *Cal.* 2 valves: *Bloss.* oblong; outer valve with an awn fixed below the point.

AVE'NA. *Cal.* 2 valves: *Bloss.* oblong; valves with a jointed awn upon the back.

ARUN'DO *Cal.* 2 valves: *Bloss.* awnless, woolly at the base.

[Dactylis glomerata. Melica cærulea, Aira aquatica.]

(4) GRASSES. *Flowers forming a spike, on a long and slender receptacle.*

TRI'TICUM. *Cal.* containing many florets.

HOR'DEUM. *Involucrum* of 6 leaves, containing 3 florets: *Flowers* simple.

ROTTBO'LLIA. *Cal.* egg-spear-shaped, flat, simple or with 2 divisions: *Florets* alternate, on a zigzag fruit-stalk.

E'LYMUS. *Involucrum* of 4 leaves, containing 2 flowers: *Flowers* compound.

LO'LIUM. *Involucrum* 1 leaf, containing 1 many-flowered spiket.

CYNOSU'RUS. *Cal.* 2 valves, containing many flowers: valves strap-shaped, tapering to a point, equal: *Nectary* of 2 leaves.

[Carex, Alopecurus pratensis, alpinus, & agrestis.]

## TRIGYNIA.

(1) *Flowers without petals. Stamens and pistils in separate flowers.*

[Carex.]

AMARAN'THUS. *Cal.* 3 or 5 leaves: *Bloss.* none. F. *Capsule* 1-cell; cut round: *Seed* 1.

(2) *Flowers with blossoms; not husks.*

MON'TIA. *Bloss.* 1 petal: *Cal.* 2 leaves.

TILLÆ'A. *Bloss.* 3 or 4 petals: *Cal.* 3 or 4 leaves: *Caps.* with 3 or 4 seeds.

POLYCAR'PON. *Bloss.* 5 petals: *Cal.* 5 leaves: *Caps.* 3 valves.

HOLO'STEUM. *Bloss.* 5 petals: *Cal.* 5 leaves: *Caps.* opening at the top.

## ENNEAGYNIA.

EM'PETRUM. Male and female flowers on distinct plants: *Cal.* with 3 divisions: *Bloss.* 3 petals. M. *Stamens* long. F. *Berry* with 9 seeds.

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## MONOGYNIA.

VALERIA'NA. *Cal.* none: *Bloss.* 1 petal, superior, bulging on one side at the base: *Seed* 1, or else a 3-celled capsule.

(1) *Flowers with* 1 *stamen.*

V. Flowers with a tail: leaves spear-shaped, very entire. ru'bra.

*Riv.* 3. 2–*Dod.* 351. 1–*Lob. obs.* 184. 2–*Ger. em.* 678. 1–*Park.* 123. 11–*Ger.* 550. 1–*H. ox.* 7. 14. 15–*J. B.* iii. 211. 2.

*Red Valerian. Bloss.* red; in gardens sometimes white. *H. ox. Hb. p.* 102.

On old walls and rubbish; Devon and Cornwall, common. Hunts. Sandyhills near Dartford by the road side. Gent. Mag. 1797, p. 217. P. May—Aug.

V. Leaves with winged clefts. calci'trapa.

*Kniph.* 9. 98.

This plant seems now to merit an introduction to the British Flora, as Mr. Caley reports it to have completely naturalized itself, if not originally a native.

On the walls belonging to Chelsea Hospital, shewn to Mr. Caley by Mr. Dickson. June.

(2) *Flowers with* 3 *stamens.*

dioi'ca. V. Stameniferous and pistilliferous flowers on different plants: leaves winged, leafits very entire: (somewhat serrated.) Stameniferous plants; with imperfect pistils.

*E. bot.* 628.–*Curt.* 278–*Kniph.* 11–*Riv.* 2. 3. *V. minor–Fl. dan.* 687. 1–*Walc.*–*Blackw.* 484–*Trag.* 62–*Math.* 41–*Ger.* 917. 3.

Pistilliferous plants with imperfect stamens.

*Curt.* 278–*Riv.* 2. 2. *flor. exig.*–*Fl. dan.* 687. 2–*Clus.* ii. 55. 2–*Dod.* 350. 1–*Lob. obs.* 411. 3–*Ger. m.* 1075. 3–*Park.* 123. 13–*J. B.* iii. 211. 1–*H. ox.* vii. 14. 5–*Mor. umb.* 10. *d. e.*

All the leaves and leafits more or less serrated. *Root-leaves* egg-shaped. *Stem-leaves* winged, or wing-cleft; the terminating leafit like the root-leaves. The male flowers have sometimes a short minute pistil, at others no appearance of any. Fem. flowers have the summit 3-cleft, and have either no stamens, or else imperfect rudiments only. The bloss. in these are smaller than in the other; in both they have a tinge of red. In Portugal I have observed female flowers producing perfect seeds, on the same plant with the male flowers; the stamens in the latter varying from 1 to 4, though in general there is only 1 stamen in each flower.

*Small Valerian.* Moist meadows, not uncommon.—[Garlic Meadows, Erdington, Warwicksh.] P. May, June.

officina'lis. V. Leaves all winged and toothed.

*Curt.*–*E. bot.* 698.–*Woodv.* 96–*Ludw.* 99–*Kniph.* 5, *the 2d figure*–*Math.* 40–*Clus.* ii. 55. 1–*Dod.* 349. 2–*Lob. obs.* 411. 2–*Ger. em.* 1075. 2–*Ger* 917. 2–*Col. phytob.* 26–*H. ox.* vii. 14. 2–*Riv.* 1–*Fl. dan.* 570–*Fuch.* 857–*Trag.* 61.

Upper *floral-leaves* spear-shaped. *Bloss.* pink.

*Great Wild Valerian.* Hedges, woods, and marshes; common.—[Plentiful in the Garlic Meadows near Penn's Mill, Erdington, Warwicksh.] P. June.*

* It is the latter variety which is in so much repute as a medicine. The root has a strong, and not an agreeable smell; its taste is warm, bitterish, and subacrid; it communicates its properties to wine, water, or spirit; but it is best in substance, and may be taken from half a dram to two

Var. 2. Leaves narrower.

*Kniph. 5, the 1st figure–Riv. 2. 1–Garidel 96. at p. 520.*

Dry heaths and high pastures.

V. Stem forked: leaves strap-shaped, very entire. locus'ta.

Var. 1. Leaves entire. *Dod.* 647. 1–*Ger. em.* 310. 1–*Ger.* 242–*J. B.* iii. 323. 2.

*Bloss.* bluish white. *Leaves* and *stems* fringed at the edges with fine white hairs.

Var. 2. Leaves pointed. *Fl. dan.* 738–*H. ox.* vii. 16. 36.

Var. 3. Leaves broad. *J. B.* iii. 323. 2.

Var. 4. Upper leaves serrated. *Curt.* 319–*E. bot.* 811–*Ger.* 242–*Lob. obs.* 412. 2–*Ger. em.* 310. 2–*Park.* 812. 3–*J. B.* iii. 324. 1–*H. ox.* vii. 16. *n.* 36. *f.* 2–*Riv.* 6. 2. *Locusta minima.*

Var. 5. Lower leaves jagged. RAY and LOBEL. *Lob. adv.* 319. 1.

Var. 6. Taller. Leaves entire. Seeds round, swoln. MORISON. *H. ox.* vii. 16. 37.

*Lambs Lettuce. Corn Sallad. Lettuce Valerian.* Common in corn fields. A. April, May, June, July.*

two drams for a dose. There is no doubt of its possessing antispasmodic virtues in an eminent degree. It is often prescribed with advantage in hysterical cases; and instances are not wanting where it appears to have removed some obstinate epilepsies. In addition to these important observations, I would add the teſtimony of Dr. Rutherford, who says, "Never have I seen such beneficial effects follow from the use of any other remedy, in cases of Hysteria-Epileptic as from it: indeed I have proved successful at last with it, when many other of the most celebrated and most powerful antispasmodic medicines had failed. The root should be gathered on dry, hilly, grounds; what grows on wet or marshy is far inferior in virtue to the former. The beſt time for collecting it, is early in the season, either before, or just when the flower stem begins to push out. It should be thoroughly dried by hanging it up in a well ventilated situation, as soon as may be after collection. When in perfection each root consists of a bundle of thick, plump, fibres, of a pretty bright brownish yellow colour, and very penetrating smell, nearly approaching to that of newly tanned leather. I prefer the medicine in powder to any other preparation, and give it in doses from a scruple to a dram, three times in the day. No very conspicuous changes are induced, except mitigation of the original evil."—It is much to be regretted that ignorance of, or inattention to, these important particulars should so frequently occasion this very valuable medicine to be used unsuccessfully, and laid aside with disgust.—In habitual costiveness it is an excellent medicine, and frequently loosens the bowels when other stronger purgatives have been tried in vain.—Cows eat the leaves: sheep are not fond of them. Cats are delighted with the roots.—Rats are said to be equally fond of them, and that the rat-catchers employ them to draw the rats together. ST.

* The young leaves in spring and autumn are eaten as sallad, and are very little inferior to young lettuce. Cattle eat it.

BRYO'NIA. *Cal.* 5-toothed: *Bloss.* with 5 divisions.
Male. *Anthers* united at the base.
Fem. *Style* 3-cleft: *Berry* roundish, mostly 1-seeded.

dioi'ca. B. Leaves hand-shaped; rough on both sides, with callous points: male and female flowers on different plants.

*Jacq. austr.* 199–*E. bot.* 439–*Sheldr.* 77–*Mill. ic.* 70–*Woodv.* 189–*Blackw.* 37–*Tourn.* 15. 1–*Dod.* 400–*Lob. obs.* 343. 3; *ic.* i. 624. 2–*Ger. em.* 869–*Gars.* 181–*Ger.* 720–*Fuchs.* 94–*J. B.* ii. 143. 2–*Cam. epit.* 987–*Park.* 178. 1–*Trag.* 820–*Lon.* i. 209. 2–*Matth.* 1283.

*Leaves* not properly hand-shaped, even the lower ones being truly lobed. Our plants are all dioecious, and have red berries. I have never observed that with black berries. The *Bryonia alba, baccis nigris* of Ray, is an addition of Dillenius. Woodw. The female flowers shew the rudiments of 5 stamens, at the insertion of the segments of the blossom, equal in number to that of the anthers of the barren flowers. St. *Barren* and *fertile plants* generally growing at a great distance from each other, never having seen them growing together but once. Leers. *Flowers* yellow white, with greenish streaks. *Berry* red. *Seeds* 3 to 6.

*Redberried Bryony. Wild Vine.* Hedges and thickets. P. May.*

RUS'CUS. Stamens and pistils mostly on different plants: *Bloss.* none: *Cal.* 6 leaves: *Nectary* central, egg-shaped, open at the top.
Male flowers, *Anthers* united.
Fem. flowers, *Berry* 3-celled: *Seeds* generally 2.

* The root is purgative and acrid; a dram of it in substance, or half an ounce of it infused in wine, is a full dose. A cold infusion of the root in water is used externally in sciatic pains. A cataplasm of it is a most powerful discutient.—A decoction made with one pound of the fresh root is the best purge for horned cattle. The active virtues of this plant seem to give it a claim to more attention than is now bestowed upon it. Some people have a method of forming the roots into human figures, and selling them for mandrakes. Goats eat it; horses, cows, sheep, and swine refuse it. Linn. Two or three of the berries have been eaten without any observable effect. Mr. Hollefear.

R. Leaves bearing the flowers on the upper surface, naked. aculea'tus.

*E. bot.* 560–*Woodv.* 237–*Kniph.* 1–*Sheldr.* 14–*Mill. ill.*–*Trag.* 919–*Lon.* i. 78. 2–*Blackw.* 155–*Cam. epit.* 935–*Park.* 253–*Gars.* 504–*Matth.* 1214–*J. B.* i. *a.* 579–*Dod.* 744–*Lob. obs.* 362. i; *ic.* i. 637. 2.–*Ger. em.* 907–*H. ox.* xiii. 5. *row* 2. 1–*Ger.* 759.

*Flower* not properly growing out of the leaf, but on a fruit-stalk from the bosom of the leaf, which is immersed beneath the outer coat, from whence it may with ease be dissected. Woodw. *Stem* tough, woody, branched, scored. *Leaves* egg-spear-shaped, pointed. *Bloss.* yellowish green. *Berries* red. Mr. Stackhouse remarks, that the 3 outer calyx leaves are larger and rigid, the 3 inner smaller; these he considers as petals, and he found a male flower fallen from the plant, which had only 3 leaves corresponding with those of the calyx.

*Knee Holly. Butchers Broom. Prickly Pettigree.* Woods, thickets, and hedges. [Hethel Woods near Norwich. Mr. Crowe.—Heath near Lowestoft. Mr. Woodward.—New Forest near Stony Cross.] S. March, April.*

## CRO'CUS. *Bloss.* with 6 equal divisions: *Summits* coiled.

C. Sheath 1 valve, rising from the root: tube of the blossom very long.—Summit in 3 deep strap-shaped segments hanging out of the blossom. E. Bot. sati'vus.

Var. 1. *officinalis.* Leaves narrower, rolled in at the edges, Flowers in autumn.

*E. bot.* 343–*Matth.* 69. 70–*Mill.* 111–*Trag.* 763–*Fuchs.* 441–*J. B.* ii. 637–*Walc.*–*Sheldr. (Saffron.)*–*Tourn.* 184.–*Ger.* 123. 1. 2–*Dod.* 213–*Lob. obs.* 68–*Ger.* 151–*H. ox.* iv. 2. 1–*Blackw.* 144. 1–*Park. par.* 167.

*Bloss.* purplish blue; filaments purple; summits deep orange. Germen cylindrical.

*Crocus autumnalis. E. bot. Crocus officinalis sativus.* Huds. *Common* or *autumnal Saffron.* About Cambridge, and Saffron Walden, Essex. [In a meadow near the copper mills, Derby.

* In Italy it is made into besoms, and the butchers use them to sweep their blocks. Huxters place the boughs round their bacon and cheese to defend them from the mice, for they cannot make their way through the prickly leaves. It will not bear the winters of Sweden.

Mr. Whateley.—Common in meadows about Manchester. Mr. Caley. P. Aug. Sept.*

vernus. C. 2 leaves broader, with flat edges. Flowers in the spring. Summit 3 short wedge-shaped lobes, inclosed within the blossom. E. Bot. 1.

*Jacq. austr. app.* 36–*E. bot.* 344–*Ger. em.* 153. 1–*Clus.* i. 205. 2–*Ger. em.* 156. 12–*Ger.* 125. 1.

Inserted on the authority of Mr. Hudson, but he has given no place of growth. It may however be found in almost every garden, both with blue and yellow blossoms in the month of March.

*Crocus officinalis sylvestris.* Huds. *Spring Saffron*, or *Crocus.*—Meadows near Nottingham. E. Bot.

nudiflo'rus. C. Tube of the blossom very long, leafless. Summit in 3 deeply laciniated segments, enclosed within the blossom. E. Bot.

*E. bot.* 491.

This new species of Crocus is introduced on the authority of the *E. bot.* in which it appears first to have been clearly ascertained by the Rev. Mr. Becher of Southwell, Nottinghamshire, and by whom it was found in great profusion between Nottingham Castle and the river Trent, growing there intermixed with the *vernus*. It is distinguished from either of the preceding species by the segments of the summit being deeply subdivided into from 7 to 12, generally 9, narrow linear lobes. The flowers, perfectly destitute of leaves, are in perfection early in October, and fade before the end of that month. The leaves do not begin to appear till some time in December, and are more erect than those of the other species, their margins scarcely revolute, colour paler, and their ends not decayed. *E. bot.*

IRIS. *Bloss:* with 6 divisions, unequal, every other segment bent back as if jointed: *Summits* petal-like, 2-lipped, edges at the base turned in.

* The summits of the pistils of the Cr. *officinalis sativus*, carefully collected, and moderately dried, are the saffron of the shops. That collected in England is preferred to all other. It affords a beautiful colour to water, wine, or spirit, and gives out the whole of its virtues to them. It hath been holden in high repute as a cordial; but modern practice pays no great attention to it, since it has been found to produce no sensible effect, even when given in doses greatly larger than those generally prescribed.

I. Leaves channelled, awl-shaped: stem 2-flowered. Xi'phium.

*H. ox.* iv. 7. 10–*Clus.* i. 212. 2–*Ger.* 93. 3–*Ger. em.* 101. 1 –*J. B.* ii. 705–*Clus.* i. 214–*Park.* 257. 8–*Ger. em.* 102. 6–*J. B.* ii. 704. 1–*Swert.* i. 35. 5–*In fruit, Clus.* i. 213–*Ger. em.* 101. 2–*Ger.* 93. 4.

Sometimes the stem produces only a single flower. *Bloss.* purplish blue.

*Bulbous-rooted flower de luce,* or *Flag.*

This plant has long been an ornament to our gardens; but Dr. Nash, in his History of Worcestershire, informs us, that it has lately been discovered by the Duchess Dowager of Portland, by the river side near Fladbury, and in other parts of that county. P.

I. Every other segment of the blossom smaller than the summit. pseuda'corus.

*Curt.* 197–*E. bot.* 578–*Blackw.* 261–*Kniph.* 3–*Fl. dan.* 494 –*Woodv.* 40–*Dod.* 248. 1–*Lob. obs.* 31. 1–*Ger. em.* 50. 2 –*Park.* 1219–*H. ox.* iv. 6. 11.

*Petals,* the 3 outer ones toothed on each side next to the stamens. *Germen* with edges, furrowed. LINN. *Valves* of the calyx spear-shaped. *Petals,* the 3 outer and larger ones streaked with purple lines. *Summits* cut into fringed segments at the top. *Flowers* 3 together at the top of the stem: the 2 outer flowers having each 1 sheathing valve, and the middle flower 2. I should be tempted to describe this flower as having 9 *petals,* and 3 *styles*; which are connected longitudinally to the 3 innermost petals. *Bloss.* yellow.

*Flower de luce. Water Flag. Yellow Flag.* Banks of rivers, marshes, and wet meadows. P. July.*

I. Stem with 1 angle. fœ'tida.

* The juice of the fresh root is very acrid, and has been found to produce plentiful evacuations from the bowels, after other powerful means had failed. *Edin. Med. Ess.* vol. v. art. 8. It may be given for this purpose in doses of 80 drops, every hour or two; but the degree of its acrimony is so uncertain, that it can hardly ever come into general use. In some cases it proves diuretic. The fresh roots have been mixed with the food of swine bitten by a mad dog, and they escaped the disease, when others bitten by the same dog died raving mad. The root loses most of its acrimony by drying. Goats eat the leaves when fresh; but cows, horses, and swine refuse them: cows will eat them when dry. The roots are used in the island of Jura to dye black. *Pennant's Tour,* 1772, p. 214.

*E. bot.* 596–*Dod.* 247. 2–*Lob. obs.* 37. 1–*Ger. em.* 60–*Park* 256. 5–*C. B. th.* 560–*J. B.* ii. 731. 2–*H. ox.* iv. 5. 2–*Fuchs.* 794–*Matth.* 991–*Trag.* 904–*J. B.* ii. 731. 1–*Blackw.* 158–*Ger.* 53. 1–*C. B. th.* 564.

*Stem* cylindrical, but angular on one side; as long as the *leaves* which cover it, and have a very fœtid smell. *Germen* 3-cornered, the corners furrowed. *Bloss.* of a disagreeable purplish ash colour; not smelling in the night time. Claws of the *outer petals* wrinkled and plaited on the under surface. *Inner petals* larger than the summit, expanding. LINN.

Var. 2. Leaves striped.

*Stinking Gladdon,* or *Gladwyn. Stinking Flag.* Near Hornsey, and about Charlton Wood, Kent. HUDS.—Near Braintree, Essex. [Near Pershore, Worcestersh. NASH. Bath Hills; Ditchingham, Norf. WOODW.—In all the S. W. counties very common, particularly about Teignmouth, on hedge banks and sloping ground.] P. June, July*

## NAR'DUS. *Cal.* none: *Bloss.* 2 valves: *Nectary* none.

stric'ta. N. Spike slender, straight; the florets pointing in one direction.

*E. bot.* 290–*Fl. dan.* 1022–*Schreb.* 7–*C. B. th.* 70–*H. ox.* viii. 7. 8–*J. B.* ii. 513. 2–*Lob. ic.* 90. 1–*Ger. em.* 1631. 3–*Park.* 1199. 5–6–7.–*Spike, &c. Leers* 1. 7–*Scheuch.* 2. 10–*Mont.* 31.

*Straw* with a single joint near its bottom, and 1 short bristle-like leaf. Root-leaves long, thread-shaped. LEERS. Spike yellowish, white, or violet coloured. Florets all pointing to one side.

*Small Matweed. Heath Matweed,* or *Matgrass.* Heaths and marshes. [Heaths in Norfolk, frequent. Mr. WOODW.—Malvern Chace, Worcest. Mr. BALLARD.—Birmingham Heath. ST.—Lilleshall pool dam, Shropshire.] P. June—Aug.†

* The juice of the root, both of this and the preceding species, is sometimes used to excite sneezing; but it is an unsafe practice. Violent convulsions have sometimes been the consequence. Neither horses, sheep, nor cows eat it. The scarlet seeds displayed by the opening capsules give the hedge banks a gay appearance in autumn. The leaves when bruised smell like rancid bacon.

† This grass is stiff and hard to the touch, but being generally short, it eludes the stroke of the scythe, and takes off its edge, which makes it disliked by mowers. Goats and horses eat it. Cows and sheep are not fond of it. Crows stock it up, for the sake of the larva of insects which they find at the root.

ERIO'PHORUM. *Husks* like chaff, tiled on every side: *Bloss.* none: *Seeds* encompassed by very long wool-like hairs.

E. Straw cylindrical, sheathed: spike skinny. vagina'tum.

*Dicks. h. s.–Curt.* 219–*Fl. dan.* 236–*Scheuch. prod. and app.* 7. 1–*J. B.* ii. 514. 2–*C. B. pr.* 23; *th.* 188–*Park.* 1272. 5–*H. ox.* viii. 9, *row* 3, 6. *Gr. junceum. ib.* 6. *Gr. juncoid.–Park.* 1272. 2–*Ib.* 1–*Park.* 1189. 1–*Spike and parts of fructif. Scheuch.* 7. 1–3. *Mont. I. K.*

*Root-leaves* imperfectly 3-cornered, sharp, with two of the sides scored. *Stem-leaves* cylindrical. *Sheaths* inclosing the straw; the uppermost purple at the base. *Straw* twice as long as the leaves; scored, cylindrical, but flat on one side. *Spike* egg-shaped, tiled. *Scales* skinny; brown: the lower ones barren; the upper ones bearing woolly seeds. LINN. *Spike* single. *Straw* bluntly 3-cornered.

*Hares-tail Rush. Moss Crops. Single-headed Cotton-grass.* Bogs. [Near Lynn. Mr. PITCHFORD.—Very frequent in all the northern counties. Mr. WOODWARD.—Ancott bog, near Salop. Mr. AIKIN.—Birmingham Heath, in the marshy valley crossed by the foot-road to Winson Green. In Cornwall on wet moors, not uncommon.] P. Feb.—April.

E. Straws cylindrical; leaves flat: spikes on fruit-stalks. polysta'chion.

*Dicks. h. s.–E. bot.* 563–*Vaill.* 16. 2–*Leers* 1. 5.

*Spike* smaller and more compact than in the next species; and the leaves being flat as well as shorter, the plants may be distinguished though not in flower. Eriophorum polystachion, β LINN.

First particularly distinguished from the next, which is our more common species, by Mr. Dickson. Bogs in Northamptonshire; near Dunstable; in Yorkshire, Cumberland, and very commonly in Scotland. Dicks. in Linn. Tr. ii. 289. [In a bog at the back of Invercauld house, and in various parts of the Highlands, but by no means a common plant. Mr. BROWN.] P. May, June.

E. Straws cylindrical: leaves channelled and 3-cornered: spikes on fruit-stalks. angustifo'lium.

*Dicks. h. s.–E. bot.* 564–*Curt*, 222–*Vaill.* 16. 1–*H. ox.* viii. 9. *row* 3. 1–*Ger.* 27. 1–*C. B. th.* 61–*Trag.* 683–*Garid.* 44–*Dod.* 562. 2–*Ger. em.* 29**–*Barr.* 12–*J. B.* ii. 514. 1 –*Parts of fructif. Mont. (Linagrost.) K. L. I.*

*Spikes*, generally 3 upon each straw, which rises out of a sheath, formed by 3 brownish leaves, the outermost of which is much longer than the rest, and green at the end. *Leaves* sheathing the stem; semi-cylindrical, and hollow at the lower part, but solid and 3-cornered towards the top; tapering gradually to a point. In its young state, before the hairs of the seeds grow out, it may be mistaken for a Scirpus. Mr. CALEY tells me he has observed the Spikes to be polygamous; and Sir THOMAS FRANKLAND has sometimes found this plant *dioicous*, in Lord Fauconberg's Park, Yorksh. *E. polystachion, Huds. Curt. Lightf. Bot. arr. ed.* i. and ii.

*Cottongrass. Moorgrass. Moss-crops. Many-headed Cottongrass.* Marshes and bogs, not uncommon. [Birming. heath, Aquilate Meer, near Newport, Shropshire, covering several acres.] P. June.*

alpi'num. E. Straws naked, 3-cornered: spike shorter than the down.

*E. bot.* 311–*Fl. dan.* 620–*Scheuchz.* 7. 4–*App.* 8.

Six or 8 inches high, slender, 3-cornered, jointless; rough when stroked downwards. *Sheaths* at the base, scored, pointed. *Spike* small, downy. SCHEUCHZ.

[Found in the summer of 1791, on the moss of Restenet, 3 miles E. of Forfar, Angussh. Scotl. by Mr. Brown, in company with Mr. Don.] P. June.

SCIR'PUS. *Husks* chaff-like, tiled on every side: *Bloss.* none: *Seed* 1, 3-cornered, often woolly: hairs shorter than the spike.

(1) *Spike single.*

palus'tris. S. Straw cylindrical, naked: spike nearly egg-shaped, terminating.

*E. bot.* 131–*Fl. dan.* 273–*Lob. obs.* 44. 1–*Ger. em.* 1631. 7–*Park.* 1196. 1. *and* 2—*H. ox.* viii. 10. 32, *and row* 3, *fig. between* 33 *and* 34–*Spike only, Scheuch.* 7. 17–*Dissected flower and a spike, Leers* 1. 3.

*Straws* leafless, but sheathed at the base. Leers says there are always 2 summits, never 3; but in E. bot. 3 are described

* This plant is useful in the Isle of Skie, to support cattle in the earlier part of the spring, before the other grasses are sufficiently grown. *Pennant's Tour*, 1774, p. 308. Poor people stuff their pillows with the down, and make wicks of candles with it, but it becomes brittle when quite dry.

and represented. *Seed* surrounded at the base by four white bristles, shorter than the calyx. LEERS. Authors have attempted to point out 2 varieties, but there seems to me no other difference than the size and height, which varies from 6 inches to 2 feet or more.

*Club-rush. Aglet-headed Rush. Common Club-grass.* Banks of rivers, ponds, and ditches; frequent. [Near Stafford, and Severn Stoke, Worcestershire. Sr.] P. July.*

S. cæspito'sus. Straw scored, naked: spike 2-valved, terminating, as long as the involucrum: roots separated by scales.

*Scheuch.* 7. 18–*J. B.* ii. 523. 2–*C. B. th.* 79–*Fl. dan.* 167–*H. ox.* 8. 10. *row* 3. 35–*Pluk.* 40. 6.

From 2 to 6 inches high. *Sheaths* at the base of the straw, terminating in short leaves. *Seeds* with hairs at the base. Sr. Length of the spike and of its lower scales, called in the specific character a calyx or involucrum, extremely uncertain, sometimes this involucrum is as long as the spike, sometimes not half so long, and in other instances considerably longer, the point of the outer valve being lengthened into a kind of awn. This species is therefore best distinguished from the preceding by the green and leaf-like appearance of the upper sheaths at the bottom of the straw.

*Dwarf Clubrush. Deers hair. Dwarf Club-grass.* Turf bogs and dry heaths. [Bogs in the New Forest.] P. June.

S. pauciflo'rus. Straw scored, naked: spike terminating; with few flowers; longer than the valves of the calyx. LIGHTF. and HALLER.

*Scheuch.* 7. 19–*Ger. em.* 21. 3–*Park.* 1270. 7.

*Root-leaves* as high, or higher than the stalks, which they resemble. *Stalks* and *leaves* sheathed. *Sheaths* lopped, and not ending in a projecting point as in the *S. cæspitosus*. *Calyx*, valves 2, oval, not ending in a rigid point. HALL. LIGHTFOOT. But Scheuchzer describes them as ending in a sharp point.—Scirpus *Bæothryon* Ehrh. and Gmelin, bears a character in all points corresponding with this plant, but no figure is referred to. Hudson supposed it might be a variety of Scirpus *cæspitosus*, but does not assign his reasons. I am of the same opinion, because the number of florets in a spike is in a great measure accidental, and in the present instance does not form any exact line of separation; and the proportionate length or shortness of the lower

* Swine devour the roots greedily when fresh, but will not touch them when dry. Goats, horses, and hogs eat it. Cows and sheep refuse it.

flower scales or calyx is equally variable, as noticed in the last article, which reconciles the difference observable in the descriptions of Haller, Scheuchzer and Lightfoot, just now mentioned. This plant likewise agrees with the *Sc. cæspitosus* in the upper sheaths of the stalk, assuming the green appearance of leaves. The only remaining difference between them is an observation of Mr. Woodward, that the Sc. pauciflorus grows scattered, never forming a turf. Since writing the above I have been favoured with the following remarks from Mr. Woodward, in support of his opinion, that the plants in question are really distinct species: "The *S. pauciflorus* is very different in its habits from the cæspitosus, for besides its growing single and not cespitose, the stems generally decline and scatter from each other, instead of being upright and close together; the stems are also more rigid, of shorter growth, and the flowers fewer, as the name expresses." —If these remarks excite an attention to the subject, it cannot remain much longer in doubt.

*Chocolate-headed Club-rush.* Highland mountains. [Ellingham Fens, Norfolk. Mr. WOODWARD.] P. August.

**acicula'ris.** S. Straw cylindrical, naked, bristle-like: spike egg-shaped, 2-valved: seeds naked. (see) Cyperus *acicularis*.

**flu'itans.** S. Straws cylindrical, naked, alternate: stem leafy and limber.

*Dicks. h. s.—E. bot.* 216–*F. dan.* 1082–*H. ox.* viii. 10. 31 –*Scheuch.* 7. 20.

*Stem* branched, limber, floating, leafy. *Branches* leafy. *Leaves* alternate. *Fruit-stalks* produced in plenty towards the end of the stem and branches, cylindrical, alternate, about 3 inches long, with 1 leaf sheathing the lower part. Mr. ROBSON. *Spikes* short, of few flowers. *Summits* only 2. Dr. SMITH.—Plant from 2 to 8 inches in length.

*Floating Club-rush or Club-grass.* Shallow waters on heaths, and in ditches. [Charley forest, in bogs and old gravel pits. PULTENEY.—In small rills of water about Newton Cartmell. Mr. HALL.—Salesmoor, near Manchester. Mr. ROBSON.] P. July.

(2) *Spikes several: straw cylindrical.*

**lacus'tris.** S. Straw, cylindrical, naked: spikes several, egg-shaped, on fruit-stalks, terminating. LINN. Calyx fringed, 3-cleft, middle segment awl-shaped. ST.

Var. 1. Involucrum somewhat membranaceous, shorter than the panicle. Spikes rather oblong. HUDS.

*E. bot.* 666–*Fl. dan.* 1142–*H. ox.* viii. 10. 1–*Ger.* 31. 3–*C. B. th.* 178–*J. B.* ii. 522. 2–*Dod.* 605. 1–*Ger. em.* 35. 3–*Park.* 1191. 1–*Leaves, Trag.* 674. 1.

Var. 2. Involucrum nearly the length of the panicle: Spikes egg-shaped. Huds.

*Ger.* 31. 4–*C. B. th.* 181.

*Spikes* dark chesnut, or dark brown with a tinge of red. Scheuch. *Calyx* dark brownish purple above; below whitish with purple spots. St.

Var. 3. One side of the straw flattish. Huds.

*H. ox.* viii. 10. 2.

*Scales* of the spikes cloven, and a little pointed subſtance at the bottom of the cleft. *Germen* with 5 or 6 hairs at the base. *Seeds* brown. Scop. *Spikes* chesnut-colour.

*Bull-rush. Club-grass.* Rivers; pools; fens; common. P. July, Aug.*

S. Straw cylindrical, naked: spikes nearly globular, closely compacted; on fruit-stalks; involucrum 2-leaved, unequal, sharp pointed. Holoschœnus.

*H. ox.* viii. 10. 17–*Mich.* 31. *(Scirpoides)*–*Scheuch.* 8. 2–5–*Pluk.* 40. 4–*C. B.* 174–*Park.* 1194. 4 *(not Fl. dan.* 454.*)*

The globular heads larger than large peas, supported on fruit-stalks of various lengths from the side of the stem, distinguish this at first sight from every other species.

*Round-headed Club-grass.* Sea coast. [Brounton Boroughs, Devonshire. Dr. Goodenough.] P. July.

S. Straw cylindrical, naked: head lateral, compact: floral leaf bent back. romanus.

*Jacq. austr.* 448–*Barr.* 255. 3–*Head; Scheuch.* 8. 6–*Pluck.* 40. 5.

*Straws* the thickness of a thread; those of the *S. Holoschœnus* as thick as the *S. lacustris*, and sharp pointed. Linn. Frequently many headed. *Scales* egg-shaped, sharp, concave. Jacq.

* When fodder is exhausted, Cattle will live upon it. Cottages are sometimes thatched, and pack-saddles stuffed with it. Bottoms of chairs are very commonly made of this rush. If cut at one year old it makes the fine bottoms. Coarse bottoms are made of it at two years old; and such as are still older, mixed with the leaves of the Iris pseud-acorus, make the coarsest bottoms of all. Mats are likewise made, either of the Scirp. lacustris alone, or mixed with the aforesaid leaves.—Goats and swine eat it.—Cows and sheep refuse it.

*Single-headed Club-grass.* Moist meadows. Marshy places near Throgmorton, Worcestershire. HUDS. and NASH. P. July.

seta'ceus. S. Straw naked, bristle-like: spikes lateral, mostly single, sitting or on fruitstalks: terminating spike sitting.

*Fl. dan.* 311–*Leers* 1. 6–*Rottb.* 15..5. *and* 6–*H. ox.* viii. 10. 23–*Park.* 1270. 10 *and* 9.

*Leaves* like bristles. *Straws* naked, numerous; as thick as the leaves but twice as long. *Spike* 1, rarely 2, terminating, egg-shaped. Lowermost Scale awl-shaped, pale, as long as the spike. LINN. *Spikes* 1 to 4. *Seeds* naked. ST. Plant from 2 to 6 inches high. *Spikes* greenish brown, with a rosy tinge.

*Least Rush. Small Plymouth Rush-grass. Least-Club-grass.* Wet sandy ground. [Bogs about Woodhouse, and on Charley forest. PULTENEY.] A. July, Aug.

(3) *Straw 3-cornered: spikes in panicles: panicle naked.*

tri'queter. S. Straw 3-cornered, naked: spikes lateral, egg-shaped, blunt, nearly sitting or on fruit-stalks: sharp point of the straw upright.

*Pluk.* 40. 2.

Sides of the straw flat, not hollowed out. LINN. In some specimens the spikes are nearly sitting, in others part of them have fruitstalks of different lengths. In the S. *mucronatus* the sides of the triangular straw are not flat, but hollowed, and the spikes are always sitting. The height of the pointed top of the straw above the clusters of florets is very different in different specimens of each species, so that nothing can be determined from that circumstance.

*Pointed or 3-square Club-rush.* Sea shore; banks of large rivers, as of the Thames, both above and below London. P. July, Aug.

(4) *Straw 3-cornered: spikes in panicles: panicle leafy.*

sylvat'icus. S. Straw 3-cornered, leafy: umbel leafy: fruitstalks naked, trebly compound: spikes crowded. LINN. Scales entire. ST.

*Kniph.* 12–*C. B. th.* 90–*H. ox.* viii. 11. 15–*J. B.* ii. 504. 2–*Fl. dan.* 307–*Lob. adv.* 38. 1–*Ger. em.* 30. 5–*Park.* 1171. 2–*Branch of the umbel, Leers,* 1. 4.

Calyx entire. ST. *Leaves* very broad, keeled; with a blunt, coloured projection at the end: the edges and keel rough with

strong hairs. *Seeds* girt with 4 or 6 short hairs rising from their base. LEERS.

*Millet Cyperus grass. Wood Club-grass.* Wet shady places. [Ditchingham, Norf. Mr. STONE.—Near York. Mr. AIKIN.—A little E. of Breakinbridge over the South Esk, on the S. side. Mr. BROWN.—About Kendal. Mr. GOUGH.—Edgbaston Pool, plentiful.] P. July.

S. Straw 3-cornered: panicle close, and leafy: scales of the spikets 3-cleft, the middle segment awl-shaped. *maritimus.*

Var. 1. *Round-rooted C. B. pr.* 24. *th.* 215–*Park.* 1263. 4–*H. ox.* viii. 11. 9–*Panicle, Scheuch.* 9. 9.

Var. 2. *Spreading. Curt.* 284–*E. bot.* 542.–*Ger.* 20. 7–*C. B. th.* 86–*Ger. em.* 22. 7–*Park.* 1266. 6. *right-hand plant–H. ox.* viii. 11. 25–*J. B.* ii. 495. 1. *left hand plant–Dod.* 338. 1–*Lob. obs.* 39. 2–*Branch of the panicle, Scheuch.* 9. 7 *and* 8.

Var. 3. *Tufted. Fl. dan.* 937–*Ger. em.* 22. 7–*Park.* 1266. 6. *left-hand plant–J. B.* ii. 495. 1. *right-hand plant.*

*Leaves* stiff, and sharp at the edges. Little spikes much longer. LINN. *Panicle* sometimes branched, sometimes simple. HUDS. as in the fig. on the left hand in Park. and that on the right in J. B. ST. *Spikes* oblong; colour of rusty iron. *Seeds* the same colour; egg-shaped, compressed, tapering to a point: 2 or 3 whitish, lopped, chaffy substances, shorter than the style, rise from the base of the germen. In some specimens the *Spikes* are sitting, and the *Stem-leaves* shorter than the Straw; in others they are longer: and in some the Spikes are some sitting, some on fruit-stalks. SCOP.

*Salt-marsh Club-grass.* Sea-coast. [Salt Marshes near Yarmouth. Mr. WOODWARD.—Shirley wych, near Stafford. ST.—Between Stockton and Porterack, by the river Tees. Mr. ROBSON.] P. Aug.*

CYPE'RUS. *Husks* chaff-like; tiled in 2 rows: *Bloss.* none: *Seed* 1; naked.

(1) *Straw cylindrical.*

C. Straw naked: spikes egg-shaped, compressed: involucrums 2-leaved; 1 valve long, awl-shaped. *nigricans.*

*Dicks. h. s.–H. ox.* viii. 10, 28–*Fructif. Scheuch.* 7. 12. 14.

* Cows eat it. The roots, dried and ground to powder, have been used instead of flour in times of scarcity.

*Leaves* numerous, bristle-like, forming a thick tuft composed of small bundles, each bundle covered with many broad scales of a blackish brown colour. *Gen. Involucr.* 2 valves, notched at the end, with a sharp point in the middle. *Awn* of the *outer Valve* much longer than the whole head, and dark brown at the end. LINN. *Scales* 2-rowed. *Spikestalk* bent alternately backwards and forwards. *Seeds* roundish, approaching to 3-square, of a pearly lustre. HALL. Each seed lies within the corresponding curvature of the spikestalk. ST.

*Round black-headed Bogrush, or Rushgrass. Schœnus nigricans.* LINN. — Bogs; marshes. [Bogs in Norfolk. Mr. PITCHFORD.—About Darlington, but not common. Mr. ROBSON.] P. June.

acicula'ris. C. Straw cylindrical, naked, bristle-shaped: spike egg-shaped, 2-valved: seeds naked.

*E. bot.* 749—*Fl. dan.* 287—*H. ox.* viii. 10, *row* 3, 37—*Plots oxf. t.* 9. *f.* 3—*Pluk.* 40. 7.

Forms a fine close green turf. Straw from 1 to 6 inches high. ST. Straw and leaves as fine as a horse hair; the former is not 4-cornered, as Hudson said, but though cylindrical it is often compressed and fluted. As the spike is more properly 2-rowed, than tiled on every side, as Haller observed, it ought, as Retzius suggests, to be considered as a Cyperus; and the absence of hairs or bristles at the base of the seed adds confirmation to this opinion.

*Scirpus acicularis.* LINN. HUDS. LIGHTF.—*E. bot.*—*Little or least upright Clubrush. Slender Clubrush.* Watery heaths, marshes and bogs. [Malvern Chace, Worc. ST.] P. Aug.

(2) *Straw 3-cornered; leafy.*

lon'gus. C. Umbel leafy, more than doubly compound: fruitstalks naked: spikes alternate.

*Jacq. pl. rar.* 297—*H. ox.* viii. 11. 13—*Fuchs.* 453—*Trag.* 915; *(improperly referred by C. B. to his C. rot. vulg.) J. B.* ii. 501. 1—*Math.* 26, *left half of the fig.*—*Ger.* 28. 1—*Dod.* 338. 2—*Lob. obs.* 40. 1—*Ger. em.* 30. 1—*Park.* 146. 3 *(descr. n.* 4*) C. B. th.* 216—*Blackw.* 316—*Branch of a panicle, Scheuch.* 8. 12.

*Fruit-stalks* sometimes to the amount of 12 or 13, forming a sort of umbel, the outer spokes of which are gradually shorter and shorter. *Little spikes* slender, chesnut coloured. SCOP.

*Sweet Cyperus. English Galingale.* Isle of Purbeck, near a chapel on the side that looks towards Portland Island. *Ray. Syn.* —[Not found on St. Faith's bogs, as mentioned by Huds. ed. 2. —A specimen of it was by mistake sent to Mr. Hudson with some of St. Faith's plants. Dr. SMITH.] There is great reason to doubt its being a native. P. July.*

SCHŒ'NUS. *Husks* chaff-like, of 1 valve, crowded: *Bloss.* none: *Seed* 1; roundish, within the husks.

S. Straw cylindrical, smooth: leaves prickly at the edge, and along the back. maris'cus

*Boccon.* 72. 2–*Lob. ic.* 76. 1–*Ger. em.* 29. 3–*C. B. th.* 221–*J. B.* ii. 504. 1–*H. ox.* viii. 11. 24–*Park.* 1264. 1–*Mich.* 31. *Pseudo-Cyp.–Fructif. Scheuch.* 8. 7–11.

Four or 5 feet high, unbranched, beautifully scored, leafy. *Lower leaves* 2 feet long or more, ¼ of an inch broad, ending in a sharp point: prickles on the edge and midrib short and stiff. *Panicles* terminating and axillary, consisting of many roundish spiculæ; the lower ones on pedicles, the upper ones nearly sitting. Mr. ROBSON. *Common Calyx* composed of scales without any parts of fructification. *Stam.* 2. SCHEUCH.

*Long-rooted bastard Cyperus, or Rushgrass.* Marshes; bogs. [Bogs in Norfolk. Mr. PITCHFORD.—Moss of Restenet, Forfar. Mr. BROWN.—Hell kettles, near Darlington. Mr. ROBSON.] P. July Aug.

It serves for thatching instead of straw, and often grows in such quantities in pools as to form floating islands. It is hurtful to cows.

S. Straw cylindrical, naked: spike an egg-shaped head: involucrum 2-leaved, 1 valve awl-shaped, long. See Cyperus *nigricans.* ni'gricans.

S. Straw naked: flowers in a double spike: larger valve of the involucrum as tall as the spike. ferrugin'eus.

*H. ox.* viii. 12. 40.

Bogs in mountains. Found by Mr. Dickson in Scotland, in great plenty. P. July.

* The root is agreeably aromatic to the smell, and warm and bitter to the taste. The modern practice disregards it; but perhaps it is not inferior to some of the more costly medicines brought from abroad.

fus'cus. S. Straw leafy: leaves thread-shaped, channelled: spikes in pairs, plump.

*H. ox.* viii. 11. 40.

Very much resembling the Sch. *albus*, in height, size, appearance, and place of growth, but still a different species, distinguishable by its *little spikes* being brown, growing in clustered heads, and not white and flat topped as in Sch. *albus*. It flowers also earlier. LINN. *Panicle* sometimes blackish. *Straw* not so tall, 3-cornered, but the angles blunt. *Leaves* marked with brown spots; 2 or 3 inches long, and somewhat more than half a line broad. POLLICH.

*Schœnus albus (fuscus.)* HUDS. who with Haller regards it only as a variety of the *albus*.

*Brown Rushgrass.* Turfy bogs. [Brigstean Moss, and other mosses about Kendal. Mr. GOUGH.] P. June.

compressus. S. Straw roundish, but tending to 3-cornered; naked: spikets in 2 opposite rows. Involucrum 1 leaf: florets with 1 husk.

*Dicks. h. s.–E. bot.* 791–*Leers* 1. 1–*Pollich.* 1. 2–*Pluk.* 34. 9–*Mich.* 31. *Cyperella. K.–Scheuch.* 11. 6.

*Straws* round, and somewhat flattened; below the spike 3-square and rough. *Involucr.* scarcely longer than the spike. *Little spikes* alternate. *Scales* fixed without any order to the receptacle. *Summits* 2. *Seed* surrounded with 6 rough bristles. LEERS. *Involucr.* either half as long, equally long, or twice as long as the spike. Its 2-rowed spike would almost induce one to refer it to the genus Cyperus, did not a more accurate examination support its present arangement.

*Sch. compressus.* LINN.—*Carex uliginosus.* LINN.—*Compressed Rushgrass.* Turf bogs. [Near Ditchingham-Bath, Norfolk. Mr. WOODWARD.] P. July.

ru'fus. S. Straw nearly 3-cornered, leafy: spike nearly egg-shaped: spikets 1-flowered: involucrum 1 leaf. HUDS.

*Dicks. h. s.–Lightf. fl.* 24. 2.

*Root* perennial, branched, horizontal, creeping. *Straws* many, 6 inches high, upright, a little 3-cornered, undivided; leafy at the base. *Root-leaves* slender, acute, naked, a little channelled, almost as long as the straw. *Stem-leaves* 2, on leaf-stalks, slender, sharp, about 3 inches long. *Leaf-stalk* sheathed, cylindrical, scored, smooth. *Spike* terminating, nearly egg-

shaped. *Little spikes* 5 or 6, sitting, alternate, tiled, reddish brown. *Involucrum* 1 leaf, acute, as long as the spike, not quickly decaying. *Husk* of 1 flower and 2 valves. Valves upright, oblong, concave, permanent. *Bloss.* Petals 6, spear-shaped, sharp, skinny; half as long as the husk. *Stam.* Filaments 3, hair-like; shorter than the blossom. *Anthers* oblong, upright, yellow. *Pist.* Germen egg-shaped, 3-cornered. *Style* very short. *Summits* 3, hair-like. *Seed* single, 3-cornered, tapering to a point. HUDSON. Colour of rusty iron. Straw nearly round. Lightfoot.

*Scb. compressus* var. Lightf. *Tawny rush-grass.* This has often been described for the S. ferrugineus, which I believe has never been found in Britain. Dr. SMITH.—Marshes, in the Isles of Skye and Mull, and near Glasgow. *Ib.* P. July.

S. Straw leafy, nearly 3-cornered: flowers in bundles: leaves like bristles. albus.

*Dicks. h. s.-Gies* 29-*Fl. dan.* 320-*H. ox.* viii. 9. 39-*Pluk.* 34. 11-*Scheuch.* 11. 11-*Mich. Cyperella I.*

*Flowers* at first white, but turning tawny. MICH. *Leaves* slightly channelled. HUDS. *Stam.* 2, rarely 3. ST.

*White-flowered Rush-grass.* Marshes. [A bog near Heydon, Norf. WOODWARD.—Blakeley, near Manchester. Mr. CALEY. Birmingham Heath. New Forest.] P. July. Sept.

CA'REX. Catkins tiled: *Cal.* 1 leaf: *Bloss.* none: *Female* florets on the same plant with the male. *Capsule* inflated; entire or 2-toothed at the end. *Summits* 2, or 3. *Seed* 1, 3-cornered, within the nectary (or capsule.) *

* It is well known that this numerous and difficult Genus was less successfully laboured by Linn. than many other parts of his system, which has been the occasion of great confusion in succeeding writers, but this deficiency, so far as it regards the British species of Carex, is now amply supplied by the industry and accuracy of the Rev. Dr. Goodenough, whose very judicious tract published in the 2d vol. of Transactions of the Linnæan Society, has enabled me to present to the English botanist a new set of specific characters, and more ample, as well as in many instances more accurate descriptions, than could otherwise have been given; besides the removal of many existing doubts and many established errors. The species being very numerous, their investigation will be facilitated by giving the specific characters altogether, as Dr. Goodenough has done. The annexed numbers will direct the reader to the descriptions more at large, the references to figures, &c. I must further add, that it is not only to Dr. Goodenough's paper, mentioned above, that myself and my readers are indebted for the improved state of this Genus, but also to his private communications of specimens and observations, and to the trouble he has taken in looking over the references to figures and pointing out such as he thought erroneous.

## SYNOPSIS OF THE SPECIES.

(1) *Spike single, not branched.*

1. C. *dioi'ca.* Spike simple: edges of the capsule finely serrated: male and female florets on different plants.
2. C. *pulica'ris.* Spike simple, with M. and F. florets: M. flowers uppermost: capsules diverging, bent back, tapering at each end.
3. C. *pauciflo'ra.* Spike simple, with M. and F. florets: F. florets about 3, not closely set, expanding: M. florets generally terminating.

(2) *Spike compound; Male and female florets in each Spiket.*

[C. atrata.]

4. C. *stellula'ta.* Spikets generally 3 or 4; distant: capsules diverging; entire at the rim; acute.
5. C. *cur'ta.* Spikets about 6, egg-shaped, rather distant, naked: scales egg-shaped, rather acute, shorter than the capsule.
6. C. *ova'lis.* Spikets about 6, oval, alternate, near together: scales spear-shaped, acute, as long as the capsule.
7. C. *remo'ta.* Spikets axillary, solitary, distant, nearly sitting: floral leaf very long: capsules undivided at the end.
8. C. *axilla'ris.* Spikets axillary, often three together, distant, sitting: floral leaf long; capsules cloven at the end.
9. C. *incur'va.* Spike conical, composed of many sitting spikets crowded together: involucrum none: straw curved.
10. C. *arena'ria.* Spike leafy, oblong, rather acute: spikets many, the upper ones male, the lower female: straw curved.
11. C. *interme'dia,* Spike oblong, blunt: spikets many, the upper and the lower ones female, the middle ones male: straw upright.

12. C. *divi'sa.* Spike egg-shaped, somewhat doubly compound, floral leaf upright: spikets rather crowded: capsules laid close: root creeping.

13. C. *murica'ta.* Spike oblong, somewhat doubly compound: spikets not crowded: capsules diverging, cloven at the end: root fibrous.

14. C. *divul'sa.* Spike doubly compound, long, somewhat branched at the base: lower spikets distant, upper ones near together: capsules rather upright.

15. C. *vulpi'na.* Spike more than doubly compound, compact though branched, blunt: spikets male at the top: capsules diverging: straws with very acute angles.

16. C. *panicula'ta.* Spike (or branched panicle) more than doubly compound, acute: branches alternate, rather distant: capsules expanding: straw 3-cornered.

17. C. *teretius'cula.* Spike more than doubly compound, branched but compact, rather acute: spikets crowded: Male floret at the top: capsules expanding: straw roundish.

(3) *Spikes* 1 *male, the others female: floral leaves membranaceous.*

18. C. *digita'ta.* Sheaths membranaceous, not leaf-like, inclosing half the fruit-stalk: spike strap-shaped, upright: male spike shortest: capsules distant.

19. C. *clandesti'na.* Sheaths membranaceous, not leaf-like: female spikes distant, hardly higher than the sheath.

(4) *Spikes* 1 *male, the others female: floral leaves leaf-like, generally sheathing the fruit-stalk.*

20. C. *pen'dula.* Sheaths long, inclosing all the fruit-stalk: spikes cylindrical, very long, pendant: capsules much crowded, egg-shaped, acute.

21. C. *strigo'sa.* Sheaths long, inclosing all the fruit-stalk: spike thread-shaped, limber, turning downwards: capsules oblong, rather 3-cornered, acute.

22. C. *præ'cox*. Sheaths short, inclosing nearly all the fruit-stalk: spikes near together: male spikes club-shaped; fem. egg-shaped: capsules roundish, pubescent.

23. C. *filifor'mis*. Sheaths short, inclosing nearly all the fruit-stalk: male spikes generally 2, strap-shaped: fem. spikes egg-shaped, distant: capsules hairy.

24. C. *fla'va*. Sheaths short, inclosing nearly all the fruit-stalk: the upper leaf-like part diverging: M. spike strap-shaped: F. spikes roundish: capsules beak-pointed.

25. C. *exten'sa*. Sheaths very short, inclosing all the fruit-stalk: the upper leaf-like part somewhat reflected: spikes crowded: female spikes nearly globular: capsules egg-shaped, acute.

26. C. *dis'tans*. Lower sheath inclosing about half the fruit-stalk: upper ones nearly the whole: spikes oblong, very far asunder: capsules acute.

27. C. *pani'cea*. Lower sheath inclosing about half the fruit-stalk; upper ones nearly the whole: spikes slender, upright, far asunder: capsules inflated, bluntish, rather distant.

28. C. *capilla'ris*. Sheaths inclosing half the fruit-stalk: fem. spikes oblong, limber, pendant when ripe: fruit-stalk hair-like: capsules tapering to a point.

29. C. *depaupera'ta*. Sheaths inclosing less than half the fruit-stalk: fem. spikes distant, few-flowered: capsules egg-shaped, inflated, beak-pointed.

30. C. *sylva'tica*. Sheaths short: spikes thread-shaped, limber, pendant: capsules egg-shaped, ending in an awn-like beak.

31. C. *recur'va*. Sheaths short: fem. spikes nearly cylindrical, pendant: capsules roundish, egg-shaped: roots creeping.

32. C. *palles'cens*. Sheaths extremely short: fem. spikes rather cylindrical, pendant when in fruit: capsules oblong, blunt.

33. C. *limo'sa*. Sheaths hardly any: fem. spikes egg-shaped, pendant: capsules egg-shaped, compressed: roots creeping.

34. C. *pseudo-cype'rus*. Sheaths hardly any: fem. spikes cylindrical, on fruit-stalks, pendant: capsules awn-beaked, rather diverging.

35. C. *atra'ta.* Sheaths hardly any: all the spikes with male and female florets; upper spikes on fruit-stalks, when in fruit, pendant: capsules egg-shaped, rather pointed.

36. C. *piluli'fera.* Sheaths none: male spike slender, females somewhat globular, sitting, crowded: straw, feeble.

37. C. *ri'gida.* Summits 2: sheath none: spikes oblong, nearly sitting: leaves rigid, bent.

38. C. *cæspito'sa.* Summits 2: sheaths none: spikes nearly sitting and cylindrical, blunt: leaves upright, soft.

39. C. *stric'ta.* Summits 2: sheaths none: spikes nearly sitting, cylindrical, acute: male spikes mostly 2: leaves upright, stiff and straight.

(5) *Spikes, some male, others female; male spikes 2 or more.*

[C. filiformis, stricta, recurva, and some others, which have, though rarely, 2 male spikes.]

40. C. *ripa'ria.* Spikes oblong, acute: scales of the male spear-shaped, of the female tapering to an awn-like point: capsules egg-spear-shaped, cloven into two teeth at the end.

41. C. *paludo'sa.* Spikes oblong, bluntish: scales of the males blunt, of the females spear-shaped: capsules egg-spear-shaped, slightly toothed at the end.

42. C. *acu'ta.* Summits 2: spikes thread-shaped: fem. spikes nodding whilst in flower, upright when ripe: capsules rather acute, entire at the end.

43. C. *vesica'ria.* Male spikes strap-shaped: females oblong, expanding: capsules inflated, oblong, beak-pointed, expanding.

44. C. *ampulla'cea.* Spikes thread-shaped, the males thinnest, females cylindrical, upright: capsules inflated, globular, awn-beaked, diverging.

45. C. *hir'ta.* Hairy: all the spikes oblong: female spikes far asunder, sheathed: capsules hairy.

(1) *Spike single, not branched.*

dioi'ca. 1. C. Spike simple; edges of the capsule finely serrated: male and female florets on different plants.

*E. bot.* 543–*Fl. dan.* 369–*H. ox.* viii. 12. 22. Male plant. *ib.* 36, female.–*Mich.* 32. 1 *and* 2. M. and F. plant; but the latter erroneously represented with 3 summits instead of 2 only.

*Root* creeping. *Leaves* like bristles, somewhat 3-cornered: channelled on the inside, upright smooth, nearly as tall as the fruit-stalk. *Straw* 4 to 10 inches high; 3-cornered, smooth. M. spike ½ to 1 inch: Fem. shorter. *Caps.* expanding, egg-shaped, acute. *Summits* 2, GOODENOUGH. L. Tr. ii. 140. *Seeds* a little serrated. *Straw* at bottom light brown; but in the C. capitata the seeds are entire, and the straw black at the bottom; so that should the C. capitata at length prove to be a British plant they may be distinguished by these circumstances. Mr. AFZELIUS.

Var. 2. Male and female florets on the same spike.

*Gent. Mag. July*, 1793.

Found amongst the other plants on Hinton and Teversham Moors near Cambridge. *C. capitata* of Hudson, not of Linn. RELHAN.

*Small Seg.* Turf bogs. [Polam near Darlington, Mr. ROBSON.—Meadows, Marham, Norfolk. Mr. CROWE.—Boggy meadows. near Bungay, Suffolk. Mr. WOODWARD.]

P. June, July.

pulica'ris. 2. C. Spike simple, with M. and F. florets: M. flowers uppermost: capsules diverging, bent back, tapering at each end.

*Leers* 14. 1–*H. ox.* viii. 12. 21–*Mich.* 33. 1–*Pluk.* 34. 10–*Fl. dan.* 166.*

*Straw* cylindrical, flattish on one side. *Barren flowers* falling off when out of blossom. *Capsules* pointed, when bent back give the straw the appearance of a different plant, bearing no small resemblance to a harpoon. LINN. *Root* fibrous; this cir-

* Scheuchz. 11. 9. 10. has been referred to this species, and by Linnæus to his C. dioica, but Dr. Goodenough informs me Scheuchzer's plant is not a native of Britain, observing, that it is more like pulicaris than dioica, but distinct from both; from dioica by the divaricated capsule, from pulicaris by the capsule being divaricated, not reflected, and by being egg-shaped at the base, and not tapering from the middle to each end.

cumstance at all times distinguishes it from the C. dioica, which has a creeping root. *Straw* smooth; 3 to 12 inches high. *Spike* terminating, cylindrical. Summits 2. GOODENOUGH. L. Tr. 142. *Leaves* bristle-shaped, bright green, in tufts, half as long as the straw. *Spike*, the male part slender, closely tiled. M. *Flowers: Scale* somewhat oval. F. *Flowers: Scales* broad at the base, embracing the germen, tapering to a point. *Capsules* longer than the scales, at first pressed to, afterwards expanding, at last bent back, in which state shining brown, spear-shaped both ways, at a little distance much resembling a flea. WOODW.

*Flea Seg.* Turfy and muddy bogs. Sides of Ingleborough and other mountainous situations. CURT.—[Boggy meadows, Norfolk, and near Bungay, Suffolk. WOODWARD.—Malvern Chace. Mr. BALLARD.—Polam near Darlington. Mr. ROBSON. —Charley forest. PULTENEY,—On St. Vincent's rock, with the *Ophrys apifera.* P. June.

3. C. Spike simple, with M. and F. florets: F. florets about 3, not closely set, expanding: M. floret generally 1, terminating. pauciflo'ra.

*Dicks. h. s.—Lightf. 6. 2. at p. 77.*

*Root* branched. *Straw* (3 to 5 inches high,) upright triangular, leafy, scored. *Root-leaves* few, sword-shaped, pointed, naked, *stem-leaves* 2, shorter than the straw. *Spike* terminating, upright. *Barren Flowers* 2 or 3, brown; *fertile flowers* 3 or 5, greenish. HUDS.

*Carex patula.* HUDS. 402 *and* 657. ST.—*Few-flowered Seg.* Boggy soil half way up Goatfield mountain in the Isle of Arran, near a place where peat is dug in the ascent of Brodwick Castle. LIGHTF.—Mountainous heaths. Near Glasgow. HUDS. P. June.

(2) *Spike compound: both male and female florets in each spiket.*

[C. atrata.]

4. C. Spikets generally 3, (or 4,) distant: capsules diverging; entire at the rim; acute. stellula'ta.

*E. bot.* 806–*Leers* 14. 8–*Fl. dan.* 284–*H. ox.* viii. 12. 26–*Scheuchz.* 11. 3–*Mich.* 33. *at the bottom, the right hand small figure.*

*Root* fibrous. *Leaves* very slender, the edges and the keel a little rough, particularly upwards. *Straw* 3-cornered, whilst flowering 3 inches high, afterwards much longer, and taller than the leaves. *Caps.* only slightly or not at all cloven at the end. *Summits* 2. GOODENOUGH. L. Tr. ii. 144. *Spikets* with both

male and female flowers; the male flowers below the female. LEERS.—*Spikets* seldom more than 4, the spaces between them about equal to their length. WOODW.—Distinguished from the *C. muricata* by having the point of the capsule acute, and not very evidently cloven. HALLER.

Sides of wet ditches and marshy places. [New Forest, plentifully.] P. May, June.

cur'ta. 5. C. Spikets about 6, egg-shaped, rather distant, naked: scales egg-shaped, rather acute, shorter than the capsule.

*Leers*, 14. 7–*Mich.* 33. 18–*Fl. dan.* 285–*Pluk*, 34. 4.*

*Root* somewhat creeping. *Leaves* slender, upright, pale bluish green, rough along the edges and the keel. *Straw* 12 inches or more, rather taller than the leaves, 3-cornered, corners acute, roughish. *Spikets* 6 or more; egg-shaped, sitting, alternate. *Scales* thin, skinny, tender. *Caps.* rim entire. *Summits* 2. GOODENOUGH L. Tr. 147.—*Spikes* of a whitish green. HALLER. *Spikets* oblong-egg-shaped.

*White Seg. C. canescens.* LIGHTF. *C. brizoides.* HUDS.—*C. cinerea.* Bot. Arr. ed. ii. Marshy places; rare. Terrington Car, near Castle Howard, Yorkshire. Mr. TEESDALE.—[Llyn Idwel, Caernarvonsh. Mr. GRIFFITH.—At the foot of Lochain y Gair, near Invercauld, and on Ben Lawers. Mr. BROWN.] P. June.

ova'lis. 6. C. Spikets about 6, oval, alternate, near together; scales spear-shaped, acute, as long as the capsule.

*Fl. dan.* 1115–*E. bot.* 306–*H. ox.* viii. 12. 29, *and a separate spike at the bottom*–*Leers* 14. 6–*Scheuch.* 10. 15.

*Root* fibrous. *Leaves* deep green, rough on the edges and the keel. *Straw* 3-cornered, a foot high; angles acute, roughish. *Caps.* the rim entire. *Summits* 2. M. florets at the base of the spikes; few: fem. florets numerous, terminating. GOODENOUGH. L. Tr. ii. 118.—*Floral-leaves*, frequently one at the base of the lowermost spiket, nearly as long as the spiket, soon falling off; the rest similar to the scales, only broader and longer. *Scales* oval-spear-shaped, shining, yellowish brown, with a green keel, membranaceous at the edge, the upper in each spiket longer and more pointed. WOODWARD. *Straw* 8 to 16 inches high, hollow.

* The fig. of Micheli very large and coarse. Loesel. Pruss. p. 117. t. 32. is one of the best figures extant. In Plukenet's fig. the spiculæ are wrongly placed on one side. Dr. GOODENOUGH.

*Naked Seg. C. leporina.* Huds.—Marshes and watery places. [On Westbromwich heath, on the south side.] P. June.

7. C. Spikets axillary, solitary, distant, nearly sitting: floral-leaf very long: capsules undivided at the end. remo'ta.

*E. bot.* 832–*H. ox.* viii. 12. 17–*Leers* 15. 1–*Fl. dan.* 370–*Mich.* 33. 15 *and* 16–*Pluk.* 34. 3.

*Spikes* very small, the lower often on short fruit-stalks. Linn. A very elegant plant. *Stems* several together, 1 to 2 feet high, slender, weak, 3-cornered, leafy below, above the lowermost floral-leaf rough, below smooth. *Leaves* numerous, slender. *Spikes* 5 to 8, sitting, spear-shaped, the 3 or 4 lowermost in the bosom of the floral-leaves, the upper naked. *Floral-leaves*, the lowermost longer than the stem, the 2 or 3 next above gradually shorter than the lowermost. *Scales* spear-shaped, when young with a green keel, and silvery membranaceous edges; when the seeds are ripe, yellowish. *Style* divided about the point of the capsule into 2 summits. *Capsule* longer than the scales. Woodw. *Leaves*, edged with exceedingly fine teeth.

*Remote Seg.* Moist woods and sides of wet ditches. P. May, June.

8. C. Spikets axillary, often 3 together, distant, sitting: floral-leaf long: capsules cloven at the end. axilla'ris.

*Linn. Trans.* ii. 19. 1.

Neither this nor the preceding species can well be mistaken for any other, and though in many circumstances they agree one with the other, yet the following observations of Dr. Goodenough are abundantly sufficient to distinguish them. In *C. axillaris* the straw is strong and rigid; in *C. remota* soft and feeble. *C. axillaris* has 3 to 5 spikets growing together; the *remota* has never more than 1 at the base of each leaf. *Caps.* in *remota* entire, in *axillaris* cloven. Linn. Tr. ii. p. 151.

Found by Mr. Curtis near Putney. May, June.

9. C. Spike conical, composed of many sitting spikets crowded together: involucrum none: straw curved. incur'va.

*Lightf. fl.* 24–*Allion. fl.* 92. 4–*Fl. dan.* 432.*

*Root* creeping. *Stalk* 3 or 4 inches high, indistinctly triangular. *Leaves* smooth; channelled, about the length of the

* Scheuch. prodr. 4, 3, had been referred by Dr. Stokes to this species, but Dr. Goodenough says it belongs to Haller's C. fœtida, and that it is entirely different from the incurva, as well in the foliage as in the capsule and husks.

straw. *Spike* the M. flower at the top, the female at the base. *Summits* 2. LIGHTF. Its conic and compact spike sufficiently distinguishes it from the *C. arenaria*. GOODENOUGH. From the description of different authors it appears that the curvature of the straw is no necessary part of its character, though Mr. Lightfoot had supposed it to be so, and Dr. Goodenough tells me that in all the specimens he had seen, it had a crooked straw.

Deep loose sea sand at the mouth of the water of Naver, and near Skelherry in Dunrosness in Shetland. HOPE in *fl. scot.*

P. July, Aug.

arena'ria. 10. C. Spike leafy, oblong, rather acute: spikets many, the upper ones male, the lower female: straw curved.

*Dicks. h. s.—Mich.* 33. 3 *and* 4—*Pluk.* 34. 8—*These fig. are drawn unnaturally upright*—Pl. XX. B. in seed.

*Root* the size of a pack-thread, creeping in the dry sand to a great length; knots about 3-4ths of an inch distant, not every one throwing out leaves or fibres. *Leaves* somewhat rolled in at the edge, in tufts arising from a brown, dry, withered sheath. *Spike* 1 to 2 inches long, generally bent. *Spikets* 4 to 10, oval-spear-shaped, the upper crowded and without floral-leaves. *Floral-leaves*, the lowermost generally shorter than the spike, the next above, and sometimes the 2 next also, as long as the spikets. *Scales* oval-spear-shaped, pointed, yellowish brown with a green keel. *Capsules* spear-shaped, shorter than the scales, convex on the upper, flat on the lower side, slightly cloven at the end. *Style* divided as it issues from the capsule. *Summits* bent back. WOODW. *Caps.* bordered towards the top, 2 on each side, with a membranaceous edge. GOODENOUGH.

*Sea Sag.* In loose moveable sand on the sea-shore. [Sea beach at Yarmouth and Lowestoft. Mr. WOODWARD.—Beach near Prestatyn, Flintshire, and Conway Marsh, Carnarvonshire. Mr. GRIFFITH.] P. June.

Var. 2. Straw and spikes upright: *Root* fibrous. Pl. XX. A. *the upright variety*. B. *a straw of the common sort in seed, to shew the curvature. a. a. a. views of the capsule to shew its membranaceous border.* About 5 inches high, stiff, upright. Root fibrous, not creeping. *Straw* 3-cornered, naked, but sheathed at the base by the leaves for about an inch from the root. *Leaves* sheathing, slender, and channelled upwards, solid and 3-cornered at the end, finely serrated at the edges and corners, nearly as tall as the straw. Partial *Involucrum* half embracing the spike-stalk, broad and leaf-like at the base, slender and pointed upwards. *Spike* 2-rowed, 1 to 1½ inch long, more than ¼ inch broad; spear-shaped. *Spikets* sitting, many-flowered (14 or more) egg-shaped, upper spikets mostly male, the others mostly female. *Scales* spear-shaped, skinny, yellow, with a green midrib, ending in an

A.
B.
a. a. a.

awn. *Capsules* compressed, concave above, convex underneath, cloven at the end, edged with a membranaceous border. *Summits* 2.

Sandy shore on the N. E. side of the Isle of Wight. Nearly out of flower in May.

11. C. Spike oblong, blunt: spikets many, the upper and lower ones female, the middle ones male: straw upright. intermedia.

*Leers* 14. 2.—(*H. ox.* viii. 12, 32. Dr. GOODENOUGH.)

*Root* thread-shaped, jointed, creeping deep under the surface, joints, distant, fibrous, set with bristle-like fringe. *Straws* above a foot high, somewhat leafy, naked upwards, rough. *Leaves* as long as the straw. *Spike* upright, at length nodding. *Spikets* 20 or 30, sitting, oblong, taper-pointed, yellowish rust-coloured, the lower more distant, alternate, the 2 lowermost and the terminating one with all the florets fertile, when ripe egg-shaped and thicker; 2 or 3 in the middle with fertile flowers and some barren ones at the end, the upper 15 to 20, crowded, with only barren flowers. *Floral-leaves*, 1 at the base of each spiket, spear-shaped, taper-pointed, the 2 or 3 lowermost egg-shaped, sometimes terminating in a bristle-shaped leaf just longer than the spiket. *Scales* of the barren flowers spear-shaped, of the fertile flowers egg-shaped. *Nectary* rough at the edge. *Capsules* egg-shaped, taper-pointed, with sharp edges cloven at the end. LEERS. Resembles C. *ovalis* in habit. *Straw* usually taller, 3-square, angles more acute. *Spike* longer. *Spikets* more numerous, smaller, more spear-shaped, sometimes found proliferous; the upper much crowded. *Floral-leaf* usually longer than the spike, not always present, and in its place broad oval spear-shaped scales, of a deeper brown than those of C. *ovalis*. *Style* divided to the base, whereas in C. *ovalis* only about 1-4th of its length. WOODWARD. *Straw* 3-cornered, corners acute, rough. Summits 2. Spikets seldom purely and entirely male or female, the former admitting a few pistilliferous, and the latter a few stameniferous florets. Nearly allied to the C. arenaria, but besides the differences mentioned in the specific characters, and the situation of the roots, in the C. intermedia, the capsule has its margin entire, whilst in the C. arenaria it is bordered towards the top with a broadish membrane. GOODENOUGH. L. Tr. 155. *Soft. Seg.* C. *disticha*. HUDS.

Marshes. [Near Bungay, Suffolk, frequent. Mr. WOODW. —Boggy meadows on the side of Malvern Chace, Worcestersh. Mr. BALLARD. St.—In a meadow at Blymhill. Rev. S. DICKENSON.] P. May, June.

divi'sa. 12. C. Spike egg-shaped, somewhat doubly compound: floral-leaf upright: spikets rather crowded: capsules laid close: root creeping.

*Linn. Tr.* ii. 19. 2–*(Barr.* 114. 2, *but the leaves should have been upright and straight–Park.* 1267, 11, *the root well expressed.* Dr. GOODENOUGH.)

*Root* thick, creeping very much. *Spikets* egg-shaped, almost in contact, upright, terminating florets male. *Scales* longer than the capsules. *Caps.* pressed close to the straw, a little bordered towards the end. GOODENOUGH. *Leaves* narrow, frequently longer than the straw. *Straw* $1\frac{1}{2}$ to 2 feet high, triangular. *Spikets* 5 or 6, the lower rather distant, the upper crowded and expanding *Floral-leaf* often considerably longer than the spike, and growing in a line with the stem, gives the plant the appearance of a rush. *Scales* oval spear-shaped, shrivelling and falling off as the spike ripens. *Style* longer than the capsule, divided one-third of the way into 2 *summits*, bent back. *Capsules* whitish, oval, pointed at both ends, very indistinctly triangular, or rather convex on one side, and flat on the inner. WOODWARD.

*Marsh Seg.* Salt Marshes. Meadows near Hithe, and Colchester, Essex. *R. Syn.*—[Near Oakley Bridge, between Norwich and Yarmouth. Mr. CROWE.—Cley, Norfolk, next the sea. Mr. WOODWARD.] P. June.

murica'ta. 13. C. Spike oblong, somewhat doubly compound: spikets not crowded: capsules diverging, cloven at the end: root fibrous.

*Mich.* 33. 14; *and R. between* 19 *and* 15–*H. ox.* viii. 12. 27–*Barr.* 20. 3–*(Also Lob. ic.* i. 19. 2–*Ger. em.* 21. 6, *and Park.* 1267. 8. Dr. GOODENOUGH.)

*Straw* 3-cornered, angles acute, rough. *Spike* compound, often doubly so. *Spikets* about 10, the lower ones distant, upper ones near together, egg-shaped, sitting, male florets at the top. *Scales* shorter than the capsule, which is cloven at the end, and rather diverging. Summits 2. This species differs from C. *vulpina* by its spike never being more than doubly compound, and by the straw not being enlarged under the spike: from C. *divisa* by its fibrous root, its diverging capsules, and its want of an upright floral-leaf: from C. *stellulata* by its numerous and contiguous spikets, and its capsules being cloven at the end. GOODENOUGH Linn. Tr. ii. 158. *Straw* with or without a floral-leaf. HUDS. Six to 14 inches high. *Spike* hardly 1 inch.

Var. 2. More slender, spike less compound: Straw less rough, and at the bottom roundish.

*Barr.* 19–*Mich.* 33. *f.* R–*Scheuch.* 11. 5. Dr. Goodenough.

*Spiked Seg.* C. *spicata.* Huds. Lightf. &c. Watery places: banks of rivers, woods. P. May, June.

14. C. Spike doubly compound, long, somewhat branched at the base: lower spikets distant, upper ones near together: capsules rather upright. divul'sa.

*E. bot.* 629–*Barr.* 20. 2–*Mich.* 33. 10, *and* 11.

*Root* fibrous. *Straw* 3-cornered, angles acute, roughish. *Spike* interrupted. *Spikets* many, egg-shaped, male florets at the top: floral leaves, bristle-like, rough. *Scales* longer than the capsules, with an awn at the end. *Caps.* cloven at the end. *Style* short. *Summits* 2. The *Caps.* being not quite upright, but yet not diverging, distinguishes this from starved specimens of the C. *vulpina*, as figured by Leers, 14. 3. Goodenough. Linn. Tr. *Floral-leaves*, that from the base of the lowermost spiket very narrow, and hair-like. *Leaves* sometimes as long, or longer than the straw. *Straws* 9 inches to a foot high, slender, somewhat reclining on the ground. *Spike* long, interrupted. *Spikets* 6 or 7, small, sitting, the lower ones considerably distant. Ray. *Spike* very frequently, if not generally, branched at the base; the branch supporting 2 or 3 spikets, and reaching to the insertion of the next spiket above. St.

*Grey Seg.* C. *canescens.* Huds. not of Linn. Leers, or Lightf. St. Moist shady places. [Common in woods and hedges in Norfolk and Suffolk. Mr. Woodw.—Also in meadows. St.] P. May. July.

15. C. Spike more than doubly compound, compact though branched, blunt: spikets male at the top: capsules diverging: straws with very acute angles. vulpi'na.

Var. 1. Spike doubly compound, floral-leaves awned. St.

*Leers* 14. 5–*H. ox.* viii. 12. 24–*Mich.* 33. 13.

Var. 2. Spike compact, floral-leaves awned. St.

*Mont. F. H. Scirpoides–Lob. ic.* 19. 1–*Ger. em* 21. 5–*Park.* 1266. 7–*Ger.* 19. 3–*C. B. th.* 87–*J. B.* ii. 497. 1.

Var. 3. Spikes less compact; floral-leaves pointed. St.

*Leers* 14. 3–*Fl. dan.* 308.

Smaller than the preceding, which in many respects it very much resembles. *Spikes* smaller and less compact. *Straws* less upright. *Leaves* narrow, and shorter than the straw. Ray. *Root* fibrous. *Straw* thickest at the spike, not so tall as the leaves. *Spike*, a floral-leaf at the base of each branch. *Scales* rather

longer than the capsules. GOODENOUGH. *Straw* thick, firm. *Spike* thick, rough on all sides. *Leaves*, the sheaths terminated by a pointed tongue as in the Grasses. LINN. *Leaves* bright green, set with minute teeth pointing upwards, in a thick tuft. *Stems* 1 to 2 feet high, 3-square, the sides somewhat concave, the angles sharp, and near the spike set with minute teeth pointing upwards. *Spike*, or rather *panicle*, short and close. *Spikets* short, numerous, the upper without floral-leaves, or with a scale broader than the rest at the base. *Floral-leaves* sometimes wanting, that at the base of the lowermost spiket, stiff, triangular awl-shaped, half embracing the stem at the base, membranaceous at the edge, the upper part green, set with minute sharp teeth, the whole turning brown as the spike ripens; those at the base of several of the lower spikets similar, but smaller. *Scales* similar in colour, egg-shaped, broad at the base, tapering into an awn. *Barren flowers* in the upper part, and the *fertile flowers* in the lower part of each spiket. *Summits* 2; deeply divided. *Capsules* obscurely triangular, cloven at the end. Mr. WOODW.

*Great Seg.* Marshes and banks of rivers, common. [In a bog at the source of the Yar in the Isle of Wight.]

P. May, June.

panicula'ta. 16. C. Spike (or branched panicle) more than doubly compound, acute: branches alternate, rather distant: capsules expanding: straw 3-cornered.

*Fl. dan.* 1116–*Scheuch. pr.* 8. 2–*Leers* 14. 4–*H. ox.* viii. 12. 23 –*Mich.* 33. 7.

*Root* fibrous, many male florets in the upper spikets, about 4 in the lower ones. GOODENOUGH. *Stems* numerous, 1 to 4 feet high, naked above, 3-square, minutely serrated at the edge. *Root-leaves* in a thick tuft, sometimes taller than the stems, terminating in a stiff thorn-like point; minutely serrated and cutting at the edge. *Bunch* 2 to 3 inches long, branched below, usually terminating above in a simple spike; the branches 1 half to 1 inch long, with numerous small roundish spikets, closely crowded. *Floral-leaves* awl-shaped, short, usually 1 at the base of the lowermost branch, and sometimes to 1 or 2 of those above. *Scales* egg-shaped, blunt at the end, deep brown, closely embracing the capsules. *Summits* 2. *Capsules* longer than the scales, obtusely triangular, tapering to a sharp cloven point. Mr. WOODWARD.

*Panicled Seg.* Bogs and watery places. P. June.

Var. 2. Bunch simple; branches distant.

*Spikets*, the lower distant, the upper crowded. The colour of the scales and capsules, the foliage and stem prove it to belong

to C. *paniculata*. Mr. WOODWARD. Cultivated in a rich wet soil, the bunch became as much branched as in the preceding. GOODENOUGH.

17. C. Spike more than doubly compound, branched but compact, rather acute: spikets crowded, M. florets at the top: capsules expanding; straw roundish. teretius'cula.

*Linn. Tr.* ii. 19. 3.

*Root* fibrous. *Straw* when in flower but ½ the length of the leaves: in seed, 12 or 18 inches high; 3-cornered, angles rough, acute, but the sides have a longitudinal projection which gives the whole a rounded appearance. *Leaves* rigid, sheathing near half the straw, rough on the keel and at the edges. *Spike* egg-oblong, rather pointed. *Fl. leaf*, the lower one very short, ending in an awn; shorter than the spiket. *Spikets* and their spiculæ egg-shaped, pointed, sitting. *M. fl.* uppermost numerous. *Fem.* about 6; placed below. Caps. rough at the edges, expanding; when ripe, longer than the scales. Summits 2. GOODEN. in Linn. Tr. ii. 163. who observes that it comes very near the C. paniculata, but is only half the size of that in all its parts.

Marshes near Norwich, discovered by Mr. Crowe. [At Fulbourne. Mr. Relhan.] P. May.

(3) *Spikes* 1 *male, the others female: floral leaves membranaceous.*

18. C. Sheaths membranaceous, not leaf-like, inclosing half the fruitstalk: spikes strap-shaped, upright, male spike shortest; capsules distant. digita'ta.

*E. bot.* 615–*Leers* 16. 4–*Mich.* 32. 9–*Scheuch.* 10. 14–*C. B. pr.* 9. 2; *th.* 48.

*Root* fibrous. *Leaves* longer than the straw when in flower, rough at the edge, quite smooth on the keel. *Fem. sp.* of about 7 florets. *Capsules* pubescent, not cloven. Summits 3. GOODEN. *Leaves* in a thick tuft. *Stems* obscurely triangular slender, not rough, one half to one foot high, entirely naked, except some reddish brown leafy sheaths at the base. *Barren spike* half inch long, closely tiled, from the same sheath with the uppermost fertile spike, and being shorter, overtopped by it. *Scales* numerous, yellowish brown, membranaceous and shining at the ends, and so bluntly rounded as to seem lopped. *Fertile spikes* 3 or 4, alternate, distant, about an inch long, on fruit-stalks. *Florets* alternate, distinct. *Scales* like those of the barren spikes, as long as the capsules. *Caps.* obscurely triangular, tapering to a blunt point. *Style* divided half way down into 3 summits. WOODWARD.

*Fingered Seg.* Woods and shady places. Near Bath. Mr. Sole. P. May, June.

clandesti'na. 19. C. Sheaths membranaceous, not leaf-like: female spikes distant, hardly higher than the sheath.

*Scheuchz.* 10. 1—*Mich.* 32. 8.

*Root* fibrous. *Leaves* slender, better than thrice the length of the straw, channelled, rough on the keel and the edge towards the points. *Straw* roundish, flatted on one side, smooth. *Spikes* 1 male, 3 female, all distant. Male spike terminating, acute, oblong, ½ inch long; fem. spike oblong, few flowered, on fruit-stalks. *Sheaths* to each spike often involving part of the spike as well as the fruit-stalk. *Caps.* entire at the end. *Summits* 3, long. Goodenough.

St. Vincent's rocks, Bristol, found by Mr. Sole. P. April.

(4) *Spikes, 1 male, the others female. Floral-leaves leaf-like, generally sheathing the fruit-stalks.*

pen'dula. 20. C. Sheaths long, inclosing all the fruit-stalk: spikes cylindrical, very long, pendant: capsules much crowded, egg-shaped, acute.

*Curt.* 180—*Bar.* 45—*H. ox.* viii. 12. 4.

*Root* fibrous. Plant from 2 to 6 feet high. Male spike terminating, 2 to 4 inches long; fem. spikes on fruit-stalks, 4 to 6 inches long, pendant. *Summits* 3. Dr. Goodenough. The size of the plant, and the very long and pendulous spikes render any further description unnecessary.

*Pendulous Seg.* Moist woods and hedges between Hampstead and Highgate, and between Marybone and Kilbourn. [Near Woodbridge, Suffolk. Mr. Woodw.—Witchery Hole, near Ham Castle, Worcestershire. Wood between Buildwas Inn and the Birches, Shropshire. St.—By the Tees, near Croft. Mr. Robson.] P. May, June.

strigo'sa. C. 21. Sheaths long, inclosing all the fruit-stalk: spikes thread-shaped, limber, turning downwards: capsules oblong, rather 3-cornered, acute.

*Linn. Trans.* ii. 20. 4.

*Root* fibrous. *Straw* 2 feet high, or more, taller than the leaves, 3-cornered, angles acute, smooth. *Leaves* broad, rough at the edge and on the keel. *Male* sp. 2 inches long, cylindrical, slender, straight, terminating. *Fem.* sp. about 7, very slender, distant, on fruit-stalks; at first upright, then hanging

down; the upper ones often having a few male florets at the end. All the spikes sheathed at the base, sheath longer than the fruitstalks. *Capsules* entire at the rim, when full grown near twice as long as the scales. Summits 3. GOODENOUGH. *Flowers* thin, irregularly scattered. *Scales* membranaceous, pale brown, with a green keel. *Capsules* 3-cornered, brownish green, ribbed, tapering regularly to a point at each end, but not taper pointed as in *C. sylvatica*. WOODWARD. Differs from C. sylvatica in its fruitstalks, being hardly longer than the sheaths, and its capsules being 3-cornered and acute, but not with a long taper point. GOODENOUGH.

*Loose Seg. Slender-eared broad-leaved Cyperus-grass with many spikes.* R. Syn. Woods and hedges. In a lane near Black Notley, Essex. Near Oxford. [Woods near Oxford. Mr. NEWBERRY.—Lanewood and Shortwood, Pucklechurch, Gloucestersh. Mr. SWAYNE.—In a wood at Hedenham, Norfolk. Mr. WOODWARD.] P. April, May.

22. C. Sheaths, short, inclosing nearly all the fruitstalk: spikes near together: male spike club-shaped: fem. egg-shaped: capsules roundish, pubescent. præcox.

*Dicks. h. s.–Jacq. austr.* 446–*Lob. ic.* i. 10; the upper fig. on the right hand with 3-spikes.–*Ger. em.* 22. 8, the upper fig. *Park.* 1160. 8.–*(the lower fig. is a single-spiked variety, which I have found, occurring now and then.* Dr. GOODENOUGH.)

*Root* creeping. *Straw* 6 to 12 inches high, leafless, 3-cornered, angles smooth. *Leaves* shorter than the straw, wide-spreading, somewhat channelled, strap-shaped, pointed, rough on the keel and at the edges. Spikes 1 male, from 1 to 3 females, but mostly 2; near the top of the straw and not far asunder. *Scales* membranaceous, rust-colour, about as long as the capsules. *Fruitstalk* of the female spikes short, encompassed by a sheathing leaf of the same length, which hardly ever exceeds the height of the straw. *Caps.* cottony, egg-shaped, rather 3-cornered, mouth undivided. *Summits* 3. JACQUIN and GOODENOUGH. Easily distinguishable from the C. *pilulifera* and *saxatilis* of Huds. by its spikes having short peduncles encompassed by a sheath of the same length, Mr. Huds. plants having no sheath. GOODENOUGH. From 2 to 10 inches high. The smaller specimens with stiff recurved leaves, have much the appearance of the C. rigida, but in that the straw is rough, the flower scales black, the capsules smooth and the summits only 2; whilst in this the straw is smooth, the scales chesnut coloured, the capsules cottony, and the summits 3.

On wettish heaths, and poor soiled meadows, common. P. April, May.

filifor'mis. 23. C. Sheaths short, inclosing nearly all the fruitstalk: male spikes generally 2, strap-shaped: fem. spikes egg-shaped, distant: capsules hairy.

*Linn. Tr.* ii. 20. 5–*Scheuch.* 10. 11.

*Root* creeping. *Straw* upright, slender, about the length of the leaves, 3-cornered, angles acute, rough. *Leaves* slender, upright, very fine at the end, 1 to 3 feet high, roughish at the edge and on the keel. *Spikes* generally 2 *male*, and 2 female. M. sp. the upper one 1½ to 2 inches long, the lower hardly 1 inch, both slender. F. sp. mostly 2, the upper one often sitting; sometimes 1 on a very short fruitstalk, upright, egg-shaped. *Sheath* short, but entirely inclosing the fruitstalk, ending in a leaf which is hardly so high as the straw. *Scales* oblong, acute, about the length of the capsule. *Capsule* hairy or woolly, 3-cornered, mouth open, cloven. Summits 3, hairy, rather thick. The great length of its slender leaves, its almost woolly capsules, and the male spikes never being more than 2, readily distinguish it from every other Carex. Goodenough. L. Tr. 172. Female spikes oblong; sometimes 3 of each sort, but then the male spikes are hardly ½ inch long. *Straw* rough only above the spikes.

*C. tomentosa.* Lightf. *Downy Seg.* At Eaton, Shropshire, found by the Rev. Mr. Williams.—S. end of Air Links. Dr. Hope. [Shortwood near Pucklechurch. Mr. Swayne.] P. June.

fla'va. 24. C. Sheaths short, inclosing nearly all the fruitstalk: the upper leaf-like part diverging: M. spike strap-shaped: F. spike roundish: capsules beak-pointed.

*Fl. dan.* 1047–*Leers* 15. 6–*J. B.* ii. 498. 1–*C. B. th.* 109 –*Lob. ic.* 15. 1–*Ger. em.* 17. 1–*Park* 1187. 2–*H. ox.* viii. 12. 19.

*Root* creeping. *Leaves* longer than the straw, rough on the keel and edges. M. sp. single, terminating, slender, ½ to 1 inch long. F. sp. either all crowded together near the male, or 1 of them lower down, or as is mostly the case, all of them at some distance apart. *Sheath* about as long as the fruitstalk, ending in a leaf standing out, and longer than the straw. *Capsules* 3-sided, longer than the scales; beak rather bent, mouth generally entire, and pointing downwards. Goodenough. *Stem* 2 inches to a foot high, numerous, declining, in the smaller plants leafy up to the spike, but in the larger usually naked upwards, triangular, smooth. *Leaves* pale yellowish green. *Barren spike* closely tiled. *Scales* numerous, bluntly oval, with one longer and larger, pointed and sometimes awned at the base. *Fertile spikes* 3 or 4, at first roundish, afterwards oval; scales oval spear-shaped, yellowish brown, with a green keel and membranaceous

edges; the lower on fruitstalks, the upper sitting, in the small plants from the bosom of the leaves, and the lowermost, sometimes almost at the root. *Floral-leaves*, in the larger plants 3 at the base of the lowermost long, expanding, those above shorter, bent back. *Capsules* short and thick, tapering to a point, pale greenish yellow. *Style* divided nearly to the base into 3 summits. WOODWARD. M. sp. has sometimes fem. florets at its base. ST. The length and the horizontal direction of the fl. leaf, together with the globular heads of pointed capsules, render the investigation easy. The long tapering point of the caps. distinguishes this from the C. *extensa*.. GOODEN.—Female spikes from 2 to 4.

*Yellow Seg. Marsh hedge-hog Grass.* Marshes and wet meadows, common. P. May, June.

Var. 2. Lower sheath inclosing but half the fruitstalk, upper ones nearly the whole. Fem. spikes 2, oblong, acute. Capsules beak-pointed.

*Linn. Tr.* ii. 20. 6.

*Root* creeping. *Straw* slender, upright, near a foot high, 3-cornered, angles acute, rough. *Leaves* upright, narrow, rough at the edge and on the keel, shorter than the straw. M. *spike* 1, terminating, slender, pointed, $\frac{1}{2}$ inch long or better. F. *spikes* 2, (very rarely 3,) often distant, egg-oblong, acute, lower one on a longish fruitstalk, upper one nearly sitting. *Fl. leaf*, lower one upright, tall as the straw, sheathing about half the fruitstalk. *Capsules* somewhat 3-cornered, expanding, but not diverging, beak-pointed and cloven at the end, fully as long as the scales. Summits 3. *Carex fulva.* Goodenough. Linn. tr. ii. 177. Dr. Goodenough, since the publication of the above memoir, authorizes me to say, that having cultivated the C. fulva he is convinced of its being only a variety of the C. flava.

Eaton near Salop, found by the Rev. Mr. Williams. [Cherry Hinton Fen, Cambridgeshire, and on the borders of Llyn Idwell Lake, Carnarvonshire. Mr. GRIFFITH.] P. June, July.

25. C. Sheaths very short, inclosing all the fruitstalk, the upper leaf-like part somewhat reflected: spikes crowded: fem. spikes nearly globular: capsules egg-shaped, acute. exten'sa.

*E. bot.* 833–*Linn. Tr.* ii. 21. 7.

*Straw* a foot high or more, 3-cornered, angles bluntish, smooth. *Leaves* narrow, towards the ends rough at the edge and on the keel. *M. Spike* 1, slender, $\frac{1}{2}$ inch long, terminating. Sometimes there is a second M. spike, which is much shorter. *F. Spikes* generally crowded at the base of the male, but sometimes the lower one is at a considerable distance, egg-shaped, or conical, pointed, on short pedicles. *Scales* egg-shaped, dagger pointed. *Fl. leaves* at the base of the fem. spikes, entirely

sheathing the short fruitstalk, ending in a leaf as tall or taller than the straw, but at length reflected. *Capsules* smooth, expanding, egg-shaped but somewhat 3-cornered, twice as long as the scale, pointed and cloven at the end. Summits 3. Taller, more slender, and the leaves narrower than in C. *flava*. GOODEN. Linn. Tr. ii. 175.

C. *flava*. var. β HUDS.—Marshy ground near Harwich, and on the west side of Braunton Burrows, in the north of Devon. GOODENOUGH.

dis'tans. 26. C. Lower sheath inclosing about half the fruitstalk: upper ones nearly the whole: spikes oblong, very far asunder: capsules acute.

*Fl. dan.* 1049–*H. ox.* viii. 12. 18.

*Root* fibrous. *Straw* 1 to 2 feet high, 3-cornered; angles acute, smooth. *Leaves* rough on the edge and the keel. M. spike 1, sometimes 2, terminating, slender, about 1 inch long. F. spikes 3, egg-oblong, an inch in length, on fruitstalks, far asunder. *Sheath*, the lower one embracing fully half, the upper ones the whole of the fruitstalk; ending in a leaf shorter than the straw. *Capsules* rather 3-cornered, tapering to a point, slightly cloven at the end, longer than the scales. Summits 3. C. *hirta* has the female spikes far asunder, as in this species, but then it has hairy leaves and capsules. GOODENOUGH. When there are 2 male spikes the under one is much the smallest, and the upper female spike has sometimes stameniferous florets at the top. In a young state the lower spike as well as the others, has its fruitstalk entirely enveloped in the sheath. The distance between the female spikes increases considerably after the flowering commences, so that that part of the character is not striking when the plant first commences its inflorescence; but Dr. Goodenough, who has been so successful in elucidating this heretofore obscure tribe of plants, observes to me, that it is sufficient if the characters apply when the plant is in its most complete state of inflorescence, so complete that the capsule shall have assumed its proper shape. It sometimes bears only 2 female spikes.

*Loose Seg.* Marshes. [Edge of Giggleswick Tarn, and near the tops of the highest mountains in Yorkshire. CURT. Bogs about Manchester, common. Mr. CALEY. In the bog at the source of the river Yar, in the Isle of Wight.] P. May, June.

pani'cea. 27. C. Lower sheath inclosing about half the fruitstalk, upper ones nearly the whole: spikes slender, upright, far asunder: capsules inflated, bluntish, rather distant.

*Leers* 15. 5–*Mich.* 32. 11–*Fl. dan.* 261.

*Leaves* roughish at the edge and on the keel. F. spikes 3, distant from each other, florets thinly set. Sheaths ending in leaves shorter than the straw. *Capsules* compressed at the base, swelling out upwards, bluntish, mouth entire, closed. When young it much resembles the *C. recurva*, but may be readily distinguished by the sheaths, the lower one in the C. *panicea* being half as long as the fruit-stalk, but in *C. recurva* only 1 quarter the length. GOODENOUGH. *Root* creeping, throwing out bundles of leaves and stems from the joints. *Stems* bluntly triangular, smooth, 12 to 18 inches high. *Leaves* smooth, sea-green, shorter than the stem. *Barren spike* terminating, more than an inch long, closely tiled. *Scales* oval. *Fertile spikes* mostly 2, upright, loosely tiled. *Fruit-stalks* long, slender, each from a joint. *Floral-leaves* sheathing, 1 at the base of each fruit-stalk, as long as the spike which belongs to it. *Flowers* alternate, many abortive. *Scales* egg-shaped, or egg-spear-shaped, not above half as long as the capsule. *Summits* 3. *Capsules* oval, bluntly pointed. WOODW.

*Pinky Seg.* Moist meadows and pastures, [frequent in Suff. Mr. WOODW.—On Dartmoor, common.] P. May, June.*

28. C. Sheaths inclosing half the fruit-stalk. Fem. spikes oblong, limber, pendant when ripe: fruit-stalk hair-like: capsules tapering to a point. capilla'ris.

*Dicks. h. s.–Fl. dan.* 168–*Scop.* 59.

*Root* fibrous. *Straw* 2 to 5 inches, upright, 3-cornered, angles smooth. *Leaves* very slender. M. spike single, terminating, slender, of very few flowers. F. spikes 2 (or 3) few-flowered. *Capsules* egg-shaped, beak-pointed, entire at the end, longer than the scales, which are deciduous. Summits 3. The small size of this plant, its fine slender fruit-stalks, its pendulous fem. spikes with 4 to 8 florets, and its deciduous scales, are characters amply sufficient to distinguish it. GOODENOUGH.—Smaller, narrower and more delicate than *C. pallescens*. *Straw* when in flower shorter than the leaf, scarcely a finger's breadth high, with a single leaf, with 4 upright spikes at the end, 1 barren and 3 fertile; but some time after it becomes a span high, thread-like, upright, with a single sheathing leaf shorter than the stem; and when the fruit is ripe a foot in height. *Spikes* on fruit-stalks; the *fertile* ones mostly 3. *Floral-leaves* gradually smaller upwards, the uppermost hardly leafy. The *barren* and the uppermost *fertile spike* from the same point. *Capsules* brown, alternate, remote, distant, fixed to hair-like pedicles. *Scales* falling off when the capsules ripen. LINN.

* *Capsules* often affected with the *smut*, in which case they are globular, larger, black, full of a mealy powder. Almost all the other species are liable to the same disease, but in this it is as common as it is rare in the rest. LINN.

54629

*Capillary Seg.* In pasture grounds at alpine heights. On Benteskerney and Malghyrdy in Glenlochai. Also on Ben Lawers and on Craig Cailleach, both in Breadalbane. Mr. Brown. P. July, Aug.

depaupera'ta. 29. C. Sheaths inclosing less than half the fruit-stalk: fem. spikes distant, few-flowered: capsules egg-shaped, inflated, beak-pointed.

*Curt.–C. ventricosa–Mich.* 32. 5.

*Root* fibrous. *Straw* 1 to 2 feet high, 3-cornered; angles smooth, bluntish. *Leaves* shorter than the straw, rough on the edge and the keel. M. spike single, terminating slender. F. spikes on long fruit-stalks, far asunder, with 3 to 6 florets, not crowded together. *Sheath* enfolding about a third of the length of the fruit-stalk, ending in a leaf which is generally taller than the straw. *Capsules* often in 2 rows, about twice the length of the scales; mouth entire. *Summits* 3. Goodenough. M. spike $\frac{1}{2}$ to $\frac{1}{4}$ of an inch long. F. spikes about 3. *Capsules* only 2 or 3 on a spike, distant, about the size of hemp-seed. Woodw.

*Charlton Seg. C. ventricosa.* Curtis. First found by Dr. Goodenough in Charlton Wood, and since by Mr. Dickson in dry woods near Godalmin in Surry. P. May, June.

sylva'tica. 30. C. Sheaths short: spikes thread-shaped, limber, pendent: capsules egg-shaped, ending in an awn-like beak.

*Dicks. h. s.–Leers* 15. 2–*H. ox.* viii. 12. 9–*Fl. dan.* 404.

*Sheaths* inclosing about $\frac{1}{4}$ of the length of the fruit-stalks. Goodenough. M. spike with sometimes an intermixture of female florets; 3-square. Its pendent spikes, the pale yellow green of its leaves, and the bend of its stem, which seems to form part of an elliptical curve, give it a very pleasing appearance, and render it one of the most elegant ornaments of our woods. Sr. *Root* creeping. *Leaves* in tufts from the joints of the root, yellowish green, about one fourth of an inch wide, rough to the touch. *Stems* numerous, in tufts, 12 to 18 inches high, triangular, rough at the edges, leafy. *Fertile spikes* 4 or 5, distant, when in seed pendent, 1 to $1\frac{1}{2}$ inch long, loosely tiled. *Flowers* alternate. *Capsules* smooth, triangular, with obscure edges, and a beak nearly as long as the capsule; cloven at the end. *Style* divided almost to the base into 2, and sometimes into 3 summits. *Barren spikes* terminating, about an inch long, slender, closely tiled. Mr. Woodw.

*Wood Seg. C. vesicaria* β Linn.–Woods, common. P. May, June.

31. C. Sheaths short: fem. spikes nearly cylindrical, pendent: capsules roundish egg-shaped: roots creeping. recurva.

*Leers* 15. 3–*Fl. dan.* 1051–*H. ox.* viii. 12. 14.

*Straw* triangular, angles smoothish, sea-green, about a foot high. *Leaves* the same glaucous green at the stem; very rough on the keel and the edges. M. spike 1 or 2, rarely 3, terminating, slender, about an inch long. Fem. spikes 3, the same length but thicker, on long fruit-stalks, pendent when ripe; far asunder. *Sheaths* inclosing scarce a 4th part of the length of the fruit-stalk, broad at the base, but ending in a leaf often taller than the straw. *Capsules* egg-shaped, indistinctly 3-sided, bluntish, a little cottony, closed at the mouth, rather longer than the scales. *Summits* 3, thick, downy. Varies much in size and habit, but the pendent black female spikes, the glaucous leaves, the short sheaths, the roundish capsules, the smoothish straw, and the creeping root, are obvious distinctions. GOODENOUGH.

*Heath Seg.* Moist meadows, pastures, heaths, and woods. [Wet woods in New Forest, plentiful. Pastures near Thornbury, Gloucestershire.] P. May, June.

32. C. Sheaths extremely short, fem. spikes rather cylindrical, pendent when in fruit: capsules oblong, blunt. pallescens.

*Dicks. h. s.–Fl. dan.* 1050–*Pluk.* 34. 5–*Mich.* 32. 13–*Leers* 15. 4.

*Root* fibrous. *Leaves* narrow, rough on the keel and the edge. (slightly) hairy. M. spike single, terminating. F. spikes 3, all near together, blunt, on fruit-stalks. *Sheaths* not inclosing more than an eighth part of the fruit-stalk, but ending in a leaf much taller than the stem. *Capsules* closely crowded, oblong, blunt, somewhat longer than the scales, mouth entire. *Summits* 3. F. spikes when in flower egg-shaped, when fully ripe nearly cylindrical. GOODENOUGH. *Stems* many, 1 to 2 feet high, triangular, roughish, leafy below, naked upwards. *Leaves* in bundles from the root, yellowish green, the lower short, the upper nearly as long as the stem. *Barren spike* ½ to ¾ inch long, slender, closely tiled, with sometimes a single fertile flower at its base. *Scales* oval-spear-shaped. *Fertile spikes* 1 to 3, the lowermost on a very short slender fruit-stalk. *Scales* oval, pointed. *Summits* 3. *Caps.* oval, pale yellowish green. Mr. WOODWARD.

*Pale Seg.* Moist meadows and pastures. [Woods on a moist clayey soil in Norfolk and Suffolk, frequent. WOODWARD.—Wet woods in gravelly soil in the New Forest.] P. May, June.

33. C. Sheaths hardly any: fem. spikes egg-shaped, pendent: capsules egg-shaped, compressed: roots creeping. limosa.

*Fl. dan.* 646–*Wilden.* 1. 4–*Scheuch.* 10. 13.

*Root* jointed, throwing out at the joints long fibres, and tufts

of leaves and stems. *Leaves* long, bright green, rough, the uppermost nearly as long as the stem. *Stems* slender, triangular, rough. *Barren spike*, *Scales* spear-shaped, the lowermost awned, yellowish brown with a green keel. *Fertile spike* generally single, loosely tiled, on a long slender fruit-stalk. *Scales* oval-spear-shaped, taper pointed, of a very rich shining brown, with a yellowish green keel. *Floral-leaves*, 1 at the base of the lowermost spike, if more than 1; very slender, about an inch long. *Caps.* oval, bluntish, bright sea-green. *Summits* long. Woodw. Distinguished from *C. recurva* by its very short sheath, its egg-shaped female spike, and by the shape and colour of its capsules, which are brown when ripe and not black. Goodenough. M. spike single, slender, not an inch long. *Caps.* rather longer than the scales, taper pointed, entire at the end. *Summits* 3. Fem. spike 1 or 2, few-flowered.

*C. elegans.* Wildenow. Woodward.—*Brown Seg.* Peat bogs and marshes, Yorksh. Lancash. Westmorel. &c. frequent. Huds. —Tullybanchar, half a mile west of Comrie near Crief. Mr. Stuart in fl. Scot. [Heydon, Norfolk. Bryant.—St. Faith's Newton Bogs. Woodward.—Moss of Restenet, Scotl. Mr. Brown.—Peat bog on Mendip Hills. Mr. Swayne. [P. June.

pseudo-cyperus. 34. C. Sheaths hardly any: fem. spikes cylindrical, on fruit-stalks, pendent: capsules awn-beaked, rather diverging.

*Fl. dan.* 1117–*E. bot.* 242–*Dod.* 389–*Lob. ic.* i. 76. 2–*Ger. em.* 29. 2–*Park.* 1266. 4–*C. B. th.* 85–*J. B.* ii. 496. 3–*H. ox.* viii. 12. 5.

*Floral-leaves* nearly bristle-shaped. *Capsules* when ripe bent back, awl-shaped, scored, tapering and ending in a double thorn or awn. Linn. *Stem* 1½ to 3 feet high, leafy below, naked above, triangular, edged with sharp teeth, with a joint near the top. *Leaves* forming thick tufts, long, broad, finely toothed, edges cutting. *Floral-leaves* similar to the other leaves, the lowermost broad, often more than a foot long, at the joint at the top of the stem, those above narrower and shorter. *Fertile spikes* from the bosom of the floral-leaves, at a small distance one above the other, sometimes 2 together, the lowermost on a long slender fruit-stalk, when in flower upright, when in fruit pendent, from 3 to 5, all rising to nearly the same height; *scales* green, awl-shaped, longer than the capsules, finely toothed at the edges, and on the back. *Capsules* pale green, spear-shaped, obscurely 3-square, elegantly ribbed. *Style* divided into 3 *summits*, scarcely longer than the awns of the capsule. Barren Spike terminating, 2 inches long; *scales* closely tiled, yellowish brown, terminated by a long awn, toothed like the stem, and longer than the filaments. Woodward. *Root* fibrous. *Caps.* rather bellying in the middle. The minuteness of the sheaths, the long points, and

the wide straddling of the capsules, are sufficient to distinguish it. The intermediate fruit-stalks are sometimes found doubled. GOODENOUGH. *Stem* triangular. *M. spike* smooth at bottom, 2 inches long, or more. *Fem. spike* 1 to nearly 3 inches. *Caps.* when young pointing upwards, but expanding, when more advanced horizontal, when quite ripe pointing downwards.

*Bastard Sedg.* Moist shady places, banks of pools and ditches, common. P. June.

35 C. Sheaths hardly any: all the spikes with male and female florets: upper spikes on fruit-stalks: when in fruit, pendant: capsules egg-shaped, rather pointed. atra'ta.

*Fl. dan.* 158–*Scheuch.* 11. 1 *and* 2.

*Root* fibrous. *Straw* 3-cornered, a foot high, angles acute, roughish. *Leaves* broad, shorter than the straw, rough at the edge and on the keel. *Upper spike* mostly female, the lower part only male, with an intermixture of hermaphrodite florets; which is often the case with the others. *Spikes* oblong, acute, ½ inch high, on long fruit-stalks, near together; pendent when ripe. *Scales* black, with a green keel; rather longer than the capsules. *Fl. leaf*, 1 to every spike, leaf-like, inclosing a very small part of the fruit-stalk. *Capsule* green, egg-shaped, often acute, compressed, slightly cloven at the end. *Filaments* 2. *Style* with 3 hairy summits. This should, from the disposition of the male and female florets, have been arranged under the 2d subdivision, but its habit strongly enforces its present situation. The black egg-shaped spikes, and the want of sheaths are sufficient to distinguish it. GOODENOUGH. *Leaves* ash-coloured sea-green, when dried yellowish green. SCHEUCH. *Spikes* oval-spear-shaped, when in flower rising nearly to the same height, the uppermost without floral-leaves, unequal, frequently 1 or 2 small ones beneath the uppermost; the upper with barren flowers at the base, the rest mostly composed of fertile flowers. *Scales* spear-shaped, black, with a brown keel, but when viewed in a strong light of an extremely rich reddish brown. *Stamens* 2. *Summits* mostly 3, sometimes 2. WOODWARD.

*Black Sedg.* Mountains of Wales about Llanberis, plentifully. Highland mountains, frequent. P. June, Aug.

36. C. Sheaths none: male spike slender, females somewhat globular, sitting, crowded: straw feeble. piluli'fera.

*Dicks. h. s.–Fl. dan.* 1048–*Leers* 16. 6–*H. ox.* viii. 12. 16–*Pluk.* 91. 8.

*Root* fibrous. *Straw* 3 to 6 inches long, or more; feeble, bent, 3-cornered, angles acute, smoothish. *Leaves* fine yellowish

green, slender, shorter than the straw, upwards rough at the edge and on the keel. *Male spikes* single, strap-shaped, terminating. *Female spikes* 3, at the base of the male, near together, oblong, acute, more globular when ripe; the 2 lower ones with a short, sitting, green floral-leaf; the upper one floral-leaf membranaceous, egg-shaped, keeled, ending in a slender green point. *Scales* as long as the ripe capsules. *Caps.* turning black, roundish, somewhat cottony, ending in a short, bluntish, undivided point. *Summits* 3. The globular form of the female spikes happens from the terminal florets being usually male, and deciduous; as these wither away, the spikes assume their round form, otherwise they are in general oblong. The capsules are somewhat cottony, as in C. præcox, but the strap-shaped male spike, the sitting female spikes, and the reclining straw, mark its distinction in all stages of its growth. GOODENOUGH.

*Pill-bearing Seg. C. montana. fl. Suec.* not *C. pilulifera.* Syst. veg. Moist heaths and pastures, not uncommon. [Bath Hills. Bungay, Suff. Mr. WOODWARD. On a dry bank facing Llanberris village, on the ascent towards Llyny Cwn. Mr. GRIFFITH.] P. April, June.

rigida. 37. C. Summits 2: sheaths none: spikes oblong, nearly sitting: leaves rigid, bent.

*Fl. dan.* 159–*Linn. Tr.* 22. 10–*Mich.* 32. 4.

*Root* thick, creeping. *Straw* 4 or 5 inches high, curved, 3-cornered, angles very rough, rigid. *Leaves* dark, and rather glaucous green, rigid, curved, shorter than the straw, towards the end rough on the edge and the keel. M. *spike* single, (rarely 2) terminating, oblong, pointed, ¾ inch long. *Scales* black, egg-shaped, very blunt. Fem. *spikes* 3, near the male, the lower farther off, oblong, pointed, sitting, (the lower often on a fruit-stalk) ¾ inch long, florets closely compacted, but the lower ones more distant, 1 or 2 at the top, chiefly on the upper spikes, male. *Scales* black, very blunt, but half the length of the ripe capsule. *Fl. leaf*, 1 to each spike, broad at the base. *Caps.* egg-shaped, blunt, entire at the end, smooth, flatted on one side; sometimes longer, taper pointed, and crooked. *Summits* 2, thick, white, hairy. This plant differs from the *C. montana* of Huds. by having no sheath, 2 summits, and smooth capsules: it differs also from the *saxatilis* of Linnæus, by being thicker and a much smaller plant; and from both by the great rigidity of its leaves and its crooked straw. By its rigid and spreading leaves it may be known from the *C. cæspitosa*, whose leaves are upright and soft, as well as from the *stricta* which is altogether upright. GOODENOUGH. L. Tr. ii. p. 193.

On the top of Snowdon. Huds. On the Scottish Alps. DICKS. —Crib. y Ddeseil. Mr. GRIFFITH.] P. April, May.

38. C. Summits 2: sheaths none: spikes nearly sitting and cylindrical, blunt: leaves upright, soft. cœspito'sa.

*Linn. Trans.* ii. 21. 8—*Park.* 1266. 3.

*Root* creeping very much. *Straw* upright, 4 to 12 inches high, or more; not rigid, 3-square, corners acute, roughish. *Leaves* pleasant green with a glaucous cast, soft, upright, tall as the straw, rough towards the end at the edge and on the keel. *Male sp.* 1, (rarely 2,) upright, terminating, oblong, 3-sided, ½ to 1 inch long; scales egg-shaped, blunt. *Fem. spikes* 2 or 3, nearly cylindrical, blunt, the lower on a short fruit-stalk, the upper ones without any. *Florets* in 6 or 8 rows, closely tiled. *Scales* egg-shaped, either blunt or pointed, black, shorter than the ripe capsules. *Fl. leaves* at the base of each female spike, but not sheathing, dilated and black at the base, generally taller than the straw. *Caps.* egg-shaped, bluntish, somewhat compressed, smooth, entire at the end. *Summits* 2. It flowers near a month later than the *C. stricta*, and the capsules in this adhere to the fruit-stalk even in decay, whilst in the *stricta* they fall off as soon as they are ripe. GOODENOUGH.—Upper female spike sometimes with male flowers at the end. The lower florets of the female spikes have sometimes 3 summits.

Marshes and wet woods. P. April, May.

39. C. Summits 2: sheaths none: spikes nearly sitting, cylindrical, acute: male spikes mostly 2: Leaves upright, stiff and straight. stri'cta.

*Linn. Tr.* ii. 21. 9.

*Root* creeping very much. *Straw* 1 to 2 feet high or more, upright 3-square, corners acute, rough. *M. spikes* generally 2, upright, 1 to 2 inches long, 3-sided. *Scales* oblong, acute, black. *Fem. sp.* 3, 1 to 2 inches long, sitting, but the lowermost on a short fruit-stalk, cylindrical, but acute, because of some male florets at the end. *Scales* oblong, acute, rather shorter than the capsules. *Fl. leaves* to the female spikes leaf-like, sitting, dilated at the base when young, but the expanded part soon vanishes. *Capsules* compressed, egg-shaped, acute, smooth, entire at the end, disposed in 8 rows. *Summits* 2, thickish, hairy. Has often been supposed the same as the C. cœspitosa, from the number of circumstances common to both; but in the *C. stricta* the root-leaves which sheath the bottom of the straw have this sheathing part split into threads like open network: they too, as well as the fl. leaves, are shorter than the straw at the time of flowering. The fl. leaves, particularly the lower ones, have either no expanded appendages at the base, or only oblong ones, which are presently so elongated as to disappear, that is, to lose all their expanded form. The fem. spikes are acute, owing to their being terminated by male florets; the scales are all acute,

the capsules are set in 8 rows, and the male sp. are mostly 2, On the contrary, *C. cæspitosa* wants the fibrous texture in the sheathing part of the root-leaves; these leaves equal the height of the straw at the time of flowering, and the fl. leaves are taller. The fl. leaves have always round expansions on each side their base, which do not change their shape; the fem. sp. are blunt, and have no male florets at the end. The capsules are set in 6, rarely in 8 rows, and there is seldom more than 1 M. spike. In its general appearance also it is a much smaller, weaker, and softer plant. GOODENOUGH. Linn. Tr. ii. p. 196.

Found by Mr. Pitchford in Marshes near Norwich. [Hallwood, near Newmarket. Mr. RELHAN.—Pilmoor pool, Weston, Staffordsh. where it forms large tufts, which may be safely trodden upon. Rev. S. DICKENSON.] P. April.

(5) *Spikes, some male, others female: male spikes 2 or more.*

[C. filiformis, stricta, recurva, and some others, which have though rarely, 2 male spikes.]

ripa'ria. 40. C. Spikes oblong, acute: scales of the male spear-shaped, of the female tapering to an awn-like point: capsules egg-spear-shaped, cloven into 2 teeth at the end.

*Curt.* 281–*E. bot.* 579–*Fl. dan.* 1118–*H. ox.* viii. 12. 1–*Leers* 16. 2–*Mich.* 32. 6 & 7.

*Root* thick, creeping very much. *Straw* 2 feet high or more, upright, firm, 3-square, angles very acute and rough. *Leaves* broad, upright, glaucous, pale on the upper side, blackish green underneath, very rough on the edges and the keel. *M. spikes* 3, terminating, pointed, oblong but 3-sided, crowded together. *F. spikes* 3, oblong, mostly pointed with male florets, upright, lower ones on fruit-stalks. *Scales* black, longer than the capsules. *Fl. leaves*, the lower ones in some degree sheathing the fruit-stalks, upper ones expanded at the base. *Capsules* tiled in 8 rows, oblong-egg-shaped, taper-pointed, marked with fibres, forked at the end. *Summits* 3. The black, triangular, acute, M. sp. and the cloven pointed capsules, preclude the possibility of mistaking this species. GOODENOUGH. *Male spikes* tapering each way, the terminating one from $1\frac{1}{2}$ to 3 inches long, before flowering brownish black, during flowering reddish brown, when out of flower light brown; near together, the space between the insertions of the lowermost and uppermost being seldom more than from 1 to $1\frac{1}{2}$ inch. *Fem. spikes* oblong, spear-shaped, tapering each way, the uppermost frequently, and sometimes all with male flowers at the end. ST.—The serrated awns of the calyx mentioned by Mr. CURTIS are not constant;

nor is the keel of the leaves rough, except towards the point. The sides of the straw are not flat, but concave.

*Great Seg.* *C. acuta α* Huds.—Edges of rivers, ponds and ditches, also in meadows, where it is much smaller.

P. April, May.

41. C. Spikes oblong, bluntish: scales of the males blunt, of the female spear-shaped: capsules egg-spear-shaped, slightly toothed at the end. paludo'sa.

*E. bot.* 807–*Curt.* 280.

*Root* greatly creeping. *Straw* 1 to 2 feet high, unequally 3-cornered, angles acute, rough. *Leaves* near ¼ inch broad, glaucous green, red at the base, shorter than the straw, upright, edges and keel rough. *M. spikes* 3, terminating, near together, oblong, blunt, 3-sided, angles bluntish; scales brown, oblong, blunt. *Fem. spikes* 3, oblong, blunt, but if terminated by male florets acute, upright, some on short fruit-stalks, florets closely and compactly tiled; scales brown, spear-shaped, very acutely pointed, mostly longer than the capsules. *Fl. leaf*, 1 to each fem. spike, somewhat sheathing the fruit-stalk, seldom expanded at the base. *Capsules* tiled, generally in 8 rows, egg-spear-shaped, rather acute, at first entire at the mouth, but when ripe shewing 2 very short little teeth. *Summits* 3. Approaches near to the *C. riparia*, but in that the scales of the M. spike are very acute, in this always blunt. In this, the capsules are either entire, or only slightly cloven at the end, in that they have a beak which is forked. Goodenough. M. sp. 1½ to 2 inches long: Fem. sometimes 3 inches or more. Straw not always rough.

*Acute Seg.* *C. acuta.* Curt.—Marshes and banks of wet ditches, often found with C. riparia. P. Apr. June.

42. C. Summits 2: spikes thread-shaped; fem. spikes nodding whilst in flower, upright when ripe: capsules rather acute, entire at the end. acu'ta.

*Dicks. h. s.*–*E. bot.* 580–*Curt.* 282–*H. ox.* viii. 12. 3.

*Root* creeping. *Straw* varying in height from 3 inches to 2 feet or more; 3-square, angles very acute and rough. *Leaves* narrow, upright, pleasant green, shorter than the straw, rough at the edges and on the keel. *M. spikes* 2, rarely 3, slender, 1 to 3 inches long, scales oblong, blunt, black. *F. spikes* 3, slender, lower ones sometimes on fruit-stalks, nodding when in flower, upright when ripe, generally terminated by some male florets, and therefore pointed. Scales oblong, acute, black, rather shorter than the capsules. *Fl. leaf*, 1 at the base of each, fem. sp. often expanded at the bottom. *Capsules* mostly disposed in 8 rows,

egg-shaped, acute, compressed, closely tiled, entire and closed at the end. The slender habit of this plant in all its parts, its thread-shaped spikes drooping whilst in flower, its 2 summits, and its compressed flattish capsules entire at the end, keep it distinct from every other species. GOODENOUGH. Fem. spike as long as the terminating M. spike. CURT.

*Slender spiked Seg.* *C. gracilis.* Curt. *C. acuta β fl. Suec.* Edges of rivers, ponds, and ditches, and also in meadows. P. Flowers a week or 2 later than *C. riparia* and *paludosa.*

vesica'ria. 43. C. Male spikes strap-shaped; females oblong, expanding: capsules inflated, oblong, beak-pointed, expanding.

*Fl. dan.* 647–*E. bot.* 779–*Leers* 16. 2. III.–*H. ox.* viii. 12. 6–*Barr.* 113. 1.

*Root* creeping. *Straw* 2 feet high, 3-square, angles very acute and rough. *Leaves* pale green, taller than the flowering straw, narrow, edges and keel rough. *M. spikes* terminating, upright, upper one 1 to 2 inches long, the others shorter, slender, somewhat 3-cornered: scales oblong, bluntish, yellow. *F. spikes* on fruit-stalks, nearly upright, 1 to 2 inches long: scales spear-shaped, but narrow and very acutely pointed, pale, at first twice the length of the capsule, afterwards only half its length. *Fl. leaf,* 1 at the base of every female spike, taller than the straw. *Capsules* loosely disposed, expanding, smooth, yellowish, egg-oblong, taper, and almost beaked at the end, which is cloven. *Summits* 3. Its yellow hue, narrow short scales, and inflated smooth conic capsules, point it out beyond all danger of mistake. GOODEN.

*Bladder Seg.* Marshes. Woods in the New Forest, Hampshire. Edgbaston Pool. P. May, June.

ampulla'cea. 44. C. Spikes thread-shaped, the males thinnest, females cylindrical, upright: capsules inflated, globular, awn-beaked, diverging.

*E. bot.* 780–*H. ox.* viii. 12. 8–*Leers* 16. 2. II.

*Root* creeping very much. *Straw* 1 to 2 feet high, upright, 3-square, angles acute, rough upwards, but smooth below the lowest spike. *Leaves* glaucous, upright, narrow, longer than the straw, generally rough at the edges and on the keel. *M. spikes* 2 or 3, strap-thread-shaped, upper one 1 to 2 inches long, the others shorter. *Scales* oblong, either blunt or acute, yellowish. *Fem. spikes* 2 or 3, cylindrical, 1 to 2 inches long, upright, on short fruit-stalks. *Scales* spear-shaped, acute, yellowish, but half the length of the capsule. *Fl. leaf,* 1 at the base of every spike, male as well as female upright, narrow. *Capsules* closely tiled

in 8 rows, inflated, globular, awn-pointed or beaked, diverging, yellowish, ending in 2 little teeth. *Summits* 3. The sheaths of the root-leaves have the fibrous texture before mentioned in the *C. stricta*. GOODENOUGH. *Stem* 1 to 4 feet high, angles obscurely marked. WOODWARD.—The scales both of the male and female flowers in the C. vesicaria are acutely pointed or awned, but in this species they are less acute and not at all awned.

*Beaked Seg.* *C. vesicaria.* Huds. *C. rostrata.* Bot. Arr. ed. ii.—Bogs and marshy watery places, but not very common. Bogs of Isla, and on Benteskerny in Breadalbane. LIGHTF.—Common in the North, on the edges of brooks and rivulets, as in Giggleswick Tarn, and borders of Semer Water, Wensledale. Not nearer London than Virginia Water. CURT.—Near Bungay, Suffolk, frequent. Mr. WOODWARD.—Mill below Droitwich. Mr. BAKER.—In a pool in the Lakewood, near Pucklechurch, Gloucestershire. Mr. SWAYNE.—Edgbaston Pool.]

P. May—July.

45. C. Hairy: all the spikes oblong; female spikes far hirta. asunder, sheathed: capsules hairy.

*Dicks. h. s.–E. bot.* 685–*Leers* 16. 3–*H. ox.* viii. 12. 10–*Fl. dan.* 379.

*Root* creeping very much. *Straw* upright, 3-square, angles very acute and rough. *Leaves* near ½ inch broad, hairy, rather shorter than the straw, rough on the keel and the edges. *M. spikes* 2. *F. spikes* 3, far asunder, the lower on long fruit-stalks. *Fl. leaves* 1 to each female spike, sheathing near half the fruit-stalk of the lower spike. *Summits* 3. GOODENOUGH. The hairiness of the leaves, the scales, and the capsules so clearly distinguish this from every other species, as to render a more minute description quite unnecessary.

*Hairy Seg.* Meadows and pastures in wet or marshy places. [Near Uley. Mr. BAKER.—Stews at Edgbaston.]

P. May, June.

TY'PHA. *Catkin* cylindrical: *Bloss.* none.

M. *Cal.* 3 bristle-shaped leaves.

F. Florets on the same plant, below the males.

*Cal.* soft hairs: *Seed* 1, standing on a fine bristle.

T. Leaves somewhat sword-shaped: spike with the male latifolia. and female florets near together.

*Curt.* 171–*Kniph.* 6–*Fuchs.* 823–*J. B.* 527. 3–*H. ox.* viii. 13. *row* 3. 1–*Fl. dan.* 645–*Lonic.* i. 174. 1–*Matth.* 863. *Ger.* 42–*Trag.* 681–*Dod.* 604–*Lob. obs.* 42. 1; *ic.* 1. 81. 1–*Ger. em.* 46–*Lonic.* i. 173. 1. *b.*–*Park.* 1204. 1–*J. B.* ii. 527. 1 *and* 2.

*Great Cat's Tail. Reed-mace.* Banks of rivers, fish ponds, and in marshes. P. July.

angustifo'lia. T. Leaves semi-cylindrical: spike with the male and female florets at some distance.

*Curt.* 169–*Fl. dan.* 815–*Tourn.* 301–*H. ox.* viii. 13. *row* 3. 2–*Park.* 1204. 2.

*Leaves*, spike and spike-stalk much more slender, though the plant grows as tall and as firm as the T. latifolia. The fertile and barren spikes generally about 1 inch asunder. WOODWARD. *Leaves* sheathing the stem, semi-cylindrical below, flat and strap-shaped towards the end.

*Small Cat's-tail.* Ditches and ponds. [Clay pits in Norfolk and Suffolk, frequent. Mr. WOODWARD.—Pool near Chartley house. Mr. BAGOT.]

Var. 2. When growing among rocks, and its roots confined, it becomes smaller, but its spikes more numerous. LINN.

*Lob. adv.* 41. *ic.* i. 81–*J. B.* ii. 540.

Hounslow Heath. *R. Syn.*

SPARGA'NIUM. Flowers crowded into a globular form: male and female on the same plant.

Male. *Cal.* 3-leaved.

Fem. *Cal.* 6-leaved: *Summits* 1 or 2. Fruit a juiceless *Drupa*, superior, of 1 cell, and 1 or 2 seeds.

ramo'sum. S. Leaves triangular at the base, the sides concave: fruit-stalks branched.

*Curt.* 342–*E. bot.* 744–*Kniph.* 12–*Leers* 13. 11–*H. ox.* viii. 13. *row* 2. 1–*Tourn.* 302–*C. B. th.* 228–*Dod.* 601. 2–*Lob. obs.* 41. 3; *ic.* i. 80. 1–*Ger. em.* 45. 1–*Park.* 1205. 1–*Pet.* 72. 9–*Cam. epit.* 732–*J. B.* ii. 541. 1–*Matth.* 990 –*Ger.* 41. 1.

*Leaves* flat towards the end. Globes of male flowers uppermost.

*Greater Burweed. Sparganium erectum.* Linn. Mr. Curtis having characterized and figured another species which is equally erect. I have adopted his specific character and his trivial name.

Ditches, marshes, and banks of rivers. P. July.

sim'plex. S. Leaves triangular at the base, the sides flat: fruit-stalks unbranched. (Curtis.)

*Dicks. h. s.–Curt.* 341–*E. bot.* 745–*Fl. dan.* 932–*Dod.* 601. 3–*Lob. obs.* 41. 4; *ic.* i. 80. 2–*Ger. em.* 45. 2–*Park.* 1206. 2–*J. B.* ii. 541. 2–*Ger.* 41. 2–*Pet.* 72. 10–*Park.* 1205. 2, *lowermost corner–H. ox.* viii. 13. *row* 2. 2.

Grows upright like the preceding, but is a much smaller plant, though the globes of flowers are larger.

Marshy places, and sides of pools, particularly such as one finds on heaths, and have been old gravel pits. P. July.

S. Leaves prostrate, strap-shaped, flat. na'tans.

*Dicks. h. s.–E. bot.* 273–*Fl. dan.* 260–*Pet.* 72. 11.

Flowering stem very slender, not rising more than 6 inches above the water; undivided; supporting a few balls of sitting flowers, and those not larger than a pea. *Leaves* flat, floating on the water to a considerable length. WOODWARD. Both before the stem shoots up, and after the flowering, the leaves, which much resemble those of the grasses, float on the surface of the water like those of Festuca fluitans. The terminating ball of flowers is entirely male, the lower ones female. *Style* short. *Summits* slanting.

*Sparganium simplex natans* β HUDS.—*Floating Burweed.* Pools, lakes, and slow rivers about Norwich. Llanberys, and in Yorkshire and Westmoreland. [St. Faith's Newton. Mr. PITCHFORD.—Stagnant waters in the Moss of Restennet, Angusshire. Mr. BROWN.] P. July.

## DIGYNIA.

### PHA'LARIS. *Cal.* 2 valves, 1-flowered, keeled, longer than, and inclosing the blossom: *Nectary* 2-leaved.

P. Panicle nearly egg-shaped, spike-like: husks keeled, hairy: nectaries 2: calyx double. canarien'sis.

*Ludw.* 117–*Schreb.* 10. 2–*Math.* 919–*Trag.* 669–*Ger.* 80. 1–*C. B. th.* 534–*Dod.* 510–*Lob. obs.* 26. 1–*Ger. em.* 86–*Park.* 1163. 1–*J. B.* ii. 442. 2–*H. ox.* viii. 3. *row* 3. 1–*Spike, Mont.* 44–*Fructif. Leers* 7. 3. ✠

*Valves* of the calyx with 2 green ribs on each side, and much larger than the blossom. Within these are 2 other small, white, skinny valves, not more than half the length of the blossom. *Bloss*, the larger valve hairy, the other only so along its back. *Nectary* 2 fleshy, concave pear-shaped substances on the outside the base of the blossom.

*Manured Canary Grass.* Road-sides and uncultivated ground. [New's-Wood, adjoining to Malvern, Worcestershire. Mr. BALLARD.] A. June—Sept.*

arena'ria. P. Spike egg-shaped, fringed: straw branched.

*Fl. dan.* 915–*E. bot.* 222–*Pluk.* 33. 8–*Mont.* 74. *Spike only.*

Spike egg-oblong. *Cal.* valves spear-shaped, not lopped, not furnished with 2 dagger points, which give such a striking appearance to the Phleums; fringed with hairs along the keel. Straw branched at the bottom.

*Phleum arenarium.* LINN. which see. *Sea Timöthy-grass.* Sandy shores. [At Yarmouth. Mr. WOODWARD.—Newborough Sands, Anglesea. Mr. GRIFFITH.] A. July, Aug.

phleoi'des. P. Panicle cylindrical, spike-like, smooth: here and there viviparous.

*E. bot.* 459–*Fl. dan.* 531–*Viviparous floret, Scheuch.* 2. 5. *C.*

*Spike* pale, divisible into lobes. So exactly resembles some of the Phleums, that it may be easily mistaken for one of that genus; but when you examine the spike and press it with your fingers, it separates, and proves to be a panicle; and the *Husks* are not notched at the end. *Flowers* different from those of the Phleum. It is a kind of intermediate plant between the Phalaris, Phleum, and Alopecurus. LINN. A stiff awn-like thread rises from the base of the inner valve, 1-3d of its length, analogous to that of *Arundo arenaria.* ST. Never found any of the florets viviparous. WOODWARD. From 10 to 15 inches high. Panicle from near 2 to 3½ inches long, thick as a goose quill.

*Cat's-tail Canary.* High, dry, and sandy soil. [First discovered in Great Britain by Mr. WOODWARD and Mr. CROWE, near Swaffham, Norfolk, in 1780.] P. June, July.

arundina'cea. P. Panicle oblong, bellying, large. *See* Calamagrostis variegata.

## PA'NICUM. *Cal.* 2-valved, 2-flowered: 1 floret hermaphrodite, the other male, or else neutral.

verticilla'tum. P. Spike cylindrical, rough when stroked downwards: partial involucrums with 2 bristles and 1 floret.

*Dicks. h. s.–Curt.–H. ox.* viii. 4. 11–*Ger.* 14–*C. B. th.* 139–*Park.* 1177. 2–*J. B.* ii. 469. 1–*Ger. em.* 15. 1.

* It is often cultivated for the sake of the seeds, which are found to be the best food for the Canary, and other small birds. It nourishes the *Coccus phalaridis*, not properly a native, but is become naturalized, though originally from the Canary islands.

Greatly resembling the *P. viride*, but the *bunches* of the *Spike* longer, 3 or 4 together, pointing downwards on one side. *Flowers* green. *Pistils* purple. 1 or 2 rough *bristles* to each flower, and longer than the flower. *Little fruit-stalks*, after the falling off of the flowers, terminated by a lopped, hollow, white cup. *Spike-stalk* cloven, with 3 or 4 corners. Straws smooth; spreading; 2 feet high. Leaves naked. LINN. Spike $2\frac{1}{2}$ to 4 inches long, and near $\frac{1}{2}$ inch broad.

*Kneed-grass. Rough Panick.* Cornfields between Putney and Roughampton. RAY.—Battersea fields. CURT. A. June, July.

P. Spike cylindrical, soft to the touch: partial involucrums with 3 bristles and 1 floret. viride.

*Curt.–Ger. em.* 17. 3–*Park.* 1154. 2 *and* 3–*Fl. dan.* 852–*Ger.* 20. 8–*C. B. th.* 138–*H. ox.* viii. 2. 10–*J. B.* ii. 431. 1–*Spike*; *Leers* 2. 2–*Fructif. Scheuch.* 2. 2.

*Spike* 1 to $2\frac{1}{2}$ inches long, $\frac{3}{8}$ broad, green or with a purplish cast from the bristles being more or less coloured.

*Green Panick.* Sandy fields. [Corn fields, Ditchingham, Norf. Mr. WOODWARD.—Many places about Norwich. Dr. SMITH.] A. July.

P. Spikes alternate and in pairs: little spikes sub-divided: husks awned, and rough with strong hairs: spike-stalk with 5 angles. Crusgalli.

Var. 1. Awns not above once and a half as long as the calyx. LINN.—Awns none. CURT.

*Curt.–Math.* 407–*H. ox.* viii. 4. *row* 1. 15–*Dod.* 559. 2–*Lob. obs.* 25. 2–*Ger. em.* 85. 4–*Park.* 1154. 1–*Ger.* 79. 5–*C. B. th.* 136.

Var. 2. Awns 10 times as long as the calyx.

*Ger.* 15. 1–*C. B. th.* 137–*J. B.* ii. 443. 2–*Ger. em.* 16. 1–*Park.* 1154. 4–*Panicle, &c. Leers* 2. 3–*Fructif. Scheuch.* 2. 2. *F.*

*Loose Panick.* Wet corn-fields: rare. About Battersea. Near Martha's Chapel, by Guildford. HUDS.—Between Deptford and Greenwich; near Petersfield, by the rivulet, Hants. Ray. A. Aug.

P. Spikes finger-like, knotty on the inside the base: flowers in pairs; without awns: sheath of the leaves dotted. sanguinale.

*Curt.* 242–*E. bot.* 849–*Schreb.* 16–*H. ox.* viii. 3. *row* 1. 2–*Buxb.* v. 65–*Clus.* ii. 217. 2–*Lob. obs.* 13. 1–*Ger. em.* 27.

2–*Park.* 1178. 1–*Ger.* 25. 2–*C. B. th.* 114–*J. B.* ii. 444. 1–*Fl. dan.* 388–*Spikes, &c. Leers* 2. 6–*Scheuch.* 2. 11. *G. H.*

The knots within the base of the spikes, and the dots on the leaf-sheath do not appear in the figure of the Fl. Lond. but the latter are mentioned, and the former expressed in the fig. of Leers; so that there yet remains a doubt whether our plant may not be the P. filiforme. fig. by Jacq. obs. iii. t. 70, and of which the following is given as a specific character: "Spikes somewhat "finger-like, approaching, upright, strap-shaped: spike-stalk "zigzag: teeth 2-flowered, 1 floret sitting."

*Cocks-foot Panick.* Corn fields near Battersea; and Martha's Chapel, Guildford. Huds.—[At Witchingham, Norfolk. Mr. Woodw.] A. July, Aug.*

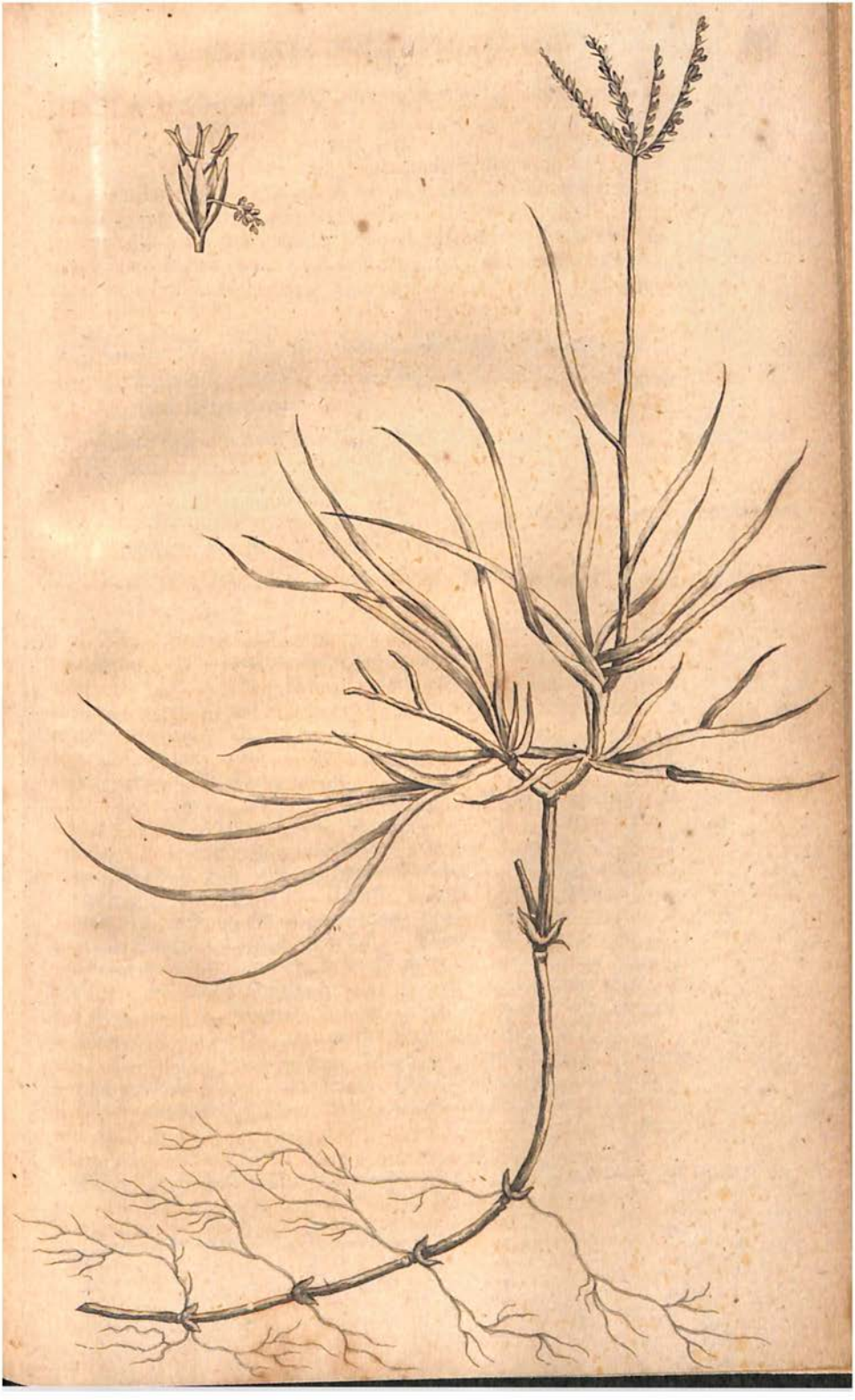
dac'tylon. P. Spikes fingered, expanding: soft hairs on the inside the base: flowers solitary: roots with creeping runners.

Plate XXI.—*Dicks. h. s.–E. bot.* 850–*Clus.* ii. 217–*Lob. obs.* 12. 1–*Ger. em.* 28. 3–*Park.* 1179. 5–*C. B. th.* 112. 113–*H. ox.* viii. 3. *rov* 2. 4–*Barr.* 753. 1–*H. ox. ib.* 6–*Spikes, Mont.* 99–*Scheuch.* 2. 11. *I.*

There is some little doubt whether ours be the exact plant characterized by Linnæus, as the *P. dactylon*; the first 4 fig. here referred to have long awns, but our plant has none, and yet these are all copied from the original fig. of Clusius, to which Linnæus refers us. But it may be, that in the milder climates of Spain and Italy, the plant is awned, though not so with us. None of the other figures have awns, and therefore agree better with our plant. But the hairs mentioned in the Sp. char. as existing on the inside the base of the spikes, are not so evident in our specimens as to justify such an application, for though our plants have some hairiness there, they have at least as much on the outside the base of the spikes, and still more in other parts.

This species seems first to have been found by Mr. Newton, as recorded in Ray Syn. 399, who justly rejects the Synon. of Bauh. pin. 7; which Linnæus probably copied from Scheuchzer or the older writers, and Hudson from him, overlooking the rejection of it by Ray. In the place mentioned by Newton, it has again been lately found by my friend Mr. Stackhouse, who sent me specimens, and also made the drawing from which the annexed plate has been engraved. Mr. Stackhouse also favoured me with the following remarks on its structure, which agree well with those of Scheuchzer.—*Root* greatly creeping through the loose sand, garnished with strong fibres at the knots. *Stem* rarely

* All the stems which lie near the ground take root, and by this means, though an annual and short lived plant, it increases and spreads very wide. Miss Jennings.



exceeding 6 inches in height. *Leaves* sheathing, the sheath parting from the straw when old, glaucous, hairy or pubescent throughout. *Spikes* 4, diverging, dark purple, changing to chesnut colour, near 2 inches long, not more hairy than the other parts of the plant. *Florets* all on one side of the spike-stalk, awnless. Mr. STACKHOUSE.

*Creeping Panick.* Sandy grounds, sea-shore. Between Penzance and Market-jeu, Cornwall. RAY. [And lately again in the same place by Mr. STACKHOUSE.] P. July.

## PHLE'UM. *Cal.* 2-valved, sitting, strap-shaped, lopped, ending in 2 dagger points, inclosing the blossom.

P. Spike egg-shaped, fringed: straw branched.—*See* Phalaris arenaria. — arena'rium.

P. Panicle cylindrical, spike-like; husks naked: straw sometimes branched. HUDS. — panicula'tum.

*Barr.* 28. 2–*Ger.* 10. 1–*C. B. th.* 51–*J. B.* ii. 471. 3–*Spike, Mont.* 53.

Mr. Dryander believes this plant of Mr. Hudson's may probably be the same as the Phalaris *aspera* of Retz. obs. iii. n. 36; see Linn. Tr. ii. p. 217. I shall therefore subjoin the following description from Retzius, to enable the English botanist to determine the point.

*Ph. aspera.* Panicle cylindrical, spike-like: calyx inversely heart-shaped, dagger-pointed.

*Root* annual. *Straw* 9 inches high, upright, sheathed and branched at the base. *Leaves* narrow, naked, short. *Panicle* spike-like, 1 to 4 inches long, thick as a goose-quill. *Calyx* inversely heart-shaped, pale green, hard, husks equal, bellying upwards, ending in dagger-points: slightly keeled. *Bloss.* husks equal. *Seed* oval, oblong, but slightly compressed. Grows on mountains in the South of Europe. RETZIUS. *Sheaths* of the leaves rough, *Sheath-scale* blunt. *Panicle* bending to one side. *Calyx* sitting, tiled, 2-valved, 1-flowered, pointed, bellying upwards. *Bloss.* 2 valves, awnless, shorter than the calyx. HUDSON; who himself believed it to be the same as the Phalaris *phleoides* of Linn.

*Branched Timothy-grass.* Meadows below King's Weston, near Bristol. Newmarket-heath. [Gogmagog hills, Cambridge. Mr. WOODWARD.—Bournbridge, Cambridgeshire. Mr. CROWE.] P. Aug.

P. Spike cylindrical, very long: calyx fringed, and awned: straw upright. — praten'se.

Var. 1. *larger.* Straw upright.

*Gram. pasc.*–*Schreb.* 14. 1. 2–*C. B. pr.* 10. *th.* 49. 1–*H. ox.* viii. 4. *row.* 3. 1 *and* 2–*J. B.* ii. 472. 2–*Park.* 1170. 1–*Spike, &c. Leers* 3. 1–*Mus. rust.* v. 1. 1–*Mont.* 52.

*Root* nearly bulbous. *Spike* from 4 to 7 inches long. *Common Timothy-grass. Herd-grass,* in N. America. *Ray Syn.* 398. 1. Pastures common. P. July.

Var. 2. *smaller.* Straw ascending.

*Schreb.* 14. 3. 4. *and* 5–*Fl. dan.* 380–*Barr.* 53–*Pet.* ii. *gram. ital.* 4. 1–*H. ox.* viii. 4. *row* 3. 3–*Ger.* 10. 2–*C. B. th.* 52–*Park.* 1170. 3–*J. B.* ii. 472. 3–*Dod.* 562–*Lob. obs.* 10. 1–*Ger. em.* 12, *uppermost fig.*–*Park.* 1170. 2–*Spike, &c. Leers* 3. 2.

Smaller than var. 1 in all its parts. *Root* more like a bulb, and sheathed with brown skin. *Spike* from $\frac{3}{4}$ of an inch to 2 inches long. Leers tells us, that being transplanted into rich soil it became the year following the 1st variety. *Florets* sometimes with 4 styles. *Ray Syn.* 398. 2. Barren pastures and road sides, common. P. July, Aug.*

nodo'sum. P. Spike cylindrical: straw ascending: leaves slanting: root bulbous.

*Barr.* 22. 1–*Pet.* ii. *gram. ital.* 4. 2–*H. ox.* viii. *row* 2. 1–*Barr.* 22. 2.

Resembles Phl. pratense, but the root is bulbous, the straw not upright, but ascending, and covered by the sheaths of the leaves. *Leaves* pointing in 2 opposite directions, smooth, except at the edges. *Spike* smooth. *Anthers* white. Linn. Notwithstanding we are told by Mr. Hudson and by Leers that this in a rich soil becomes the Phl. pratense, I am not quite satisfied that these respectable authors may not have fallen into a mistake from having considered the 2d variety of the Phl. pratense as the Phl. nodosum of Linnæus: but that is a very common plant with us, whilst what I consider as the true Linnæan nodosum, is rare.†

Lower joints of the straw swollen into bulbs, but the root not bulbous. *Straw* universally knee-bent. Mr. Swayne. *Bulbs* on the straw 3 or 4, $\frac{1}{2}$ an inch asunder, 2 spear-shaped scales to each

* Cows, horses, and goats eat it. Swine refuse it.—Account of it in *Mus. rust.*—Dr. Pultney says, that notwithstanding the character which this grass acquired from Le Rocque's recommendation, sheep dislike it; neither are cows or horses fond of it. But Leers says, it affords an excellent pasture for horses.—A hard coarse grass, of little value for cattle.—Mr. Swayne.

† The only specimen I have seen of it was sent me by the Rev. Mr. Swayne, author of the Gramina pascua, a work extremely well calculated to spread a useful knowledge of the grasses amongst the farmers, as well as to instruct the country gentlemen in the best means of ameliorating our pasture lands.

bulbous joint. *Straw* not only ascending, but knee-bent. *Leaves* narrower than in the preceding species. *Ray Syn.* 398. 3.

[On the top of a wall about 6 miles from Bath, on the Warminster road. Mr. SWAYNE.] June.

P. Spike egg-cylindrical. alpi'num.

*E. bot.* 519–*Scheuch. pr.* 3. 1–*Fl. dan.* 213.

*Spike* about 1 inch long, $\frac{1}{3}$ of an inch broad, dark coloured, purplish, especially towards the base. *Awns* of the calyx as long as the husks; but in *Phl. pratense* they are much shorter.

*Mountain Timothy-grass.* Said to be found on Craigneulic, above Killin. LIGHTF.—Mountains near Garway Moor. DICKSON.—[On Lochain y Gair abundant, and more sparingly on Ben Lawers. Mr. BROWN.] P. Aug.

ALOPECU'RUS. *Cal.* 2-valved: *Bloss.* 1 valve: *Nectary* none.

A. Spiked straw upright: calyx hairy: blossom awned. praten'sis.

*Gram. pasc.*–*Curt.* 296–*E. bot.* 759–*Schreb.* 19. 1–*Mus. Rust.* iv. 2. 9–*Stillingf.* 2, *out of blossom*–*Ger. em.* 11. 1–*Park.* 1164. 3–*Spike, &c. Leers* 2. 4.

It is surprising that the spec. char. in the later edition of the works of LINNÆUS should describe this as awnless. The awn is twice the length of the calyx, and knee-bent. *Spike* 1 to $1\frac{1}{2}$ inch long, near $\frac{1}{2}$ inch broad.

*Meadow Foxtail. Foxtail Grass.* Meadows, very common. P. May, June.*

A. Spiked straw, upright: calyx not hairy, its husks united at the base. agres'tis.

*Curt.*–*Schreb.* 19. 2–*E. bot.* 848–*Fl. dan.* 697–*Ger. em.* 11. 2–*Barr.* 699. 2.–*Buxb.* v. 40. 1–*J. B.* ii. 473. 1–*Ger.* 9. 4–*C. B. th.* 53. 5–*Park.* 1169. 8–*Spike, &c. Leers* 2. 5–*Mont.* 54–*Scheuch.* 2. 6. *A. B.*

* This is the best grass to sow in low meadow grounds, or in boggy places which have been drained. Sheep, horses, and goats eat it. Cows and swine are not fond of it. LINN. But Dr. Pultney says, this is the most grateful of all grasses to cattle.—ALOPECURUS *pratensis* is a grass very promising for cultivation. Lewis Majendie, Esq. Hedingham Castle, Norfolk, has cultivated it on a considerable scale, and finds it to be an excellent grass. There is however one circumstance which will be a great impediment to its general cultivation, viz. the depredations of the larvæ of a species of Musca which devour the seed so much, that in many spikes you will scarcely find one perfect. These larvæ are the prey of the Cimex campestris, whose rostrum seems peculiarly formed for searching the husks of the grasses. Mr. SWAYNE.

*Spike* 2 to 4 inches long, hardly ¼ inch broad, of a kind of lead colour. *Calyx* 1 leaf, divided rather more than half way down.

Var. 2. Spike shorter. Awns bowed back. RAY *Syn.* p. 397. n. 2.

Cornfields and road sides. [Pastures in the Isle of Wight, very common.] A very troublesome weed in many places among wheat, and execrated by the farmers under the name of Black Bent. Mr. SWAYNE. P. May, June.

bulbo'sus. A. Straw upright: spike cylindrical: root bulbous.

*Barr.* 699. 1–*Ray* 20. 2–*Mont.* 54.

*Root* not creeping nor sending out suckers. *Straw* never striking root at the joints, never knee-jointed. *Spike* dark glaucous green, but not so black as in the bulbous variety of Al. geniculatus. *Anthers* in this deep glaucous blue, in the variety of geniculatus the colour of rusty iron. WOODWARD. *Spike* 1 to 1½ inch long. *Awns* barely twice the length of the calyx; little fruit-stalks branched.

*Alopecurus geniculatus bulbosus.* HUDS. *Bulbous Foxtail.* In the first field next the road before you go into Northfleet. HUDS. [In a salt marsh near Yarmouth. Mr. WOODW.] P. June, July.

geniculatus. A. Spiked straw knee-jointed. (Sp. Pl.)

Var. 1. Awns twice as long as the blossom: root fibrous.

*Curt.* 339–*Fl. dan.* 861–*H. ox.* viii. 4. *row* 2. 15–*Leers* 2. 7 –*Scheuch.* 2. 6. C. D. E.

Upper leaves 1 to 1½ inch above the sheathing part. Spikes 1½ inch long. *Awns* full twice as long as the calyx. *Anthers* purplish, changing to dull yellow.

Meadows, common. P. June.

Var. 2. *Awns* longer than the blossom: root bulbous: sheaths wider than the thickness of the straw. *Awns* barely twice the length of the calyx. *Anthers* purple, changing to brown yellow.

[On a bog at the source of the Yar; Fresh Water Gate, Isle of Wight.] May.

Var. 3. Awns more than twice the length of the blossom: root bulbous.

[In flat meadows at Highbridge in the parish of Hantspill, Somersetshire.] June.

Var. 4. Awns very fine and soft, not longer than the blossom: Root fibrous.

*Tab. hist.* 1. *p.* 512–*C. B. th.* 42–*Ger. em.* 14. 2–*Park.* 1275. 7.

From the fineness and shortness of the awns this has the appearance of being awnless. Leaves broader than in any of the

preceding, sheathing the straw quite up to the top, the sheath much wider than the thickness of the straw, and widest upwards. *Spike-like panicle* cylindrical, 2 inches long, ¼ inch broad, pale green. *Anthers* fine orange, so that the flowering plant may be distinguished at some distance. I suspect that this will prove to be a distinct species.

[In a marshy place by the Stews in Edgbaston Park.]

P. Aug. Sept.

A. Panicle spike-like: calyxes rough: blossoms awned. monspelien'sis.

*Kniph.* 12–*H. ox.* viii. 4. *row* 2. 3–*Park.* 1166. 3–*Panicle, Barr.* 115. 2.

Resembles Al. paniceus, but thrice as large. Calyx husks rough, but smooth at the edge; both valves awned. LINN.

*Bearded Foxtail Grass.* Marshes and wet pastures. Purfleet, Essex. About 2 miles from Portsmouth, near Drayton, RAY. A. June, July.

A. Panicle spike-like: calyxes set with soft hairs: blossoms awned. pani'ceus.

*Kniph.* 12–*Schreb.* 20. 3–*Barr.* 115. 1–*Buxb.* v. 66. 1.

Very much resembles *A. monspeliensis*, but the whole plant is soft, and only 5 or 6 inches high. *Calyx* husks downy; woolly at the edges. LINN. Bloss. 2 valves, awn the length of the larger valve, issuing from its point. Spikes full 1 inch long, and ⅛ inch broad. Both this and the preceding species having a bloss. with 2 valves, do not well accord with the Generic character, nor does the shape of the calyx allow them to arrange with the Phleums as was proposed by Schreber. They will probably sometime be arranged under a new genus, with something like the following ESSENTIAL CHARACTER. *Calyx* 2-valved, valves fringed, 1-flowered: *Bloss.* 2 valves, outer valve awned.

Dry soil. A. July.

MIL'IUM. *Cal.* 2-valved, 1-flowered; valves nearly equal: *Bloss.* very short: *Summits* pencil-shaped.

M. Panicle spike-like: flowers with awns. lendi'gerum

*Schreb.* 23. 3–*Pluk.* 33. 6–*Gouan. hort.* 1. 2–*Branch of the panicle, Scheuch.* 3. 11. *C.*

*Panicle* strap-spear-shaped, glossy, 1½ to 3 inches long, ⅜ to ½ inch broad. *Calyx* bellying, polished, and colourless at the base, finely serrulated at the edges, the longer valve awn pointed.

*Bloss.* larger valve terminating in 4 little teeth, the smaller valve in 2; much smaller than the calyx. *Awn* jointed; fixed above the middle of the larger *bloss.* valve; as long as the larger *calyx* valve; deciduous.

*Panick Millet. Alop. ventricosus.* HUDS.—Meadows and pastures. Isle of Sheepey. [Near Weymouth. LIGHTF.—Amongst wheat, Gillingham, Norf. Mr. WOODWARD.]

This cannot properly be considered as an Alopecurus, because the bloss. is 2-valved. If it must be removed from the Milium, it would best arrange as an Agrostis, but the remarkable polished swell at the base of the calyx, in the hollow of which the blossom lies, seems sufficient to establish it in its present situation.

effu'sum. M. Flowers in panicles, scattered; awnless.

*Curt.* 248–*Fl. dan.* 1143–*H. ox.* viii. 5. 10–*Ger.* 6. 1–*C. B. th.* 141–*Park.* 1153. 1–*Portion of the panicle, Leers* 8. 7–*Scheuch.* 3. 6–*Floret. Mont.* 61.

Three or 4 feet high. *Leaves* ½ inch or more in breadth. Panicle tall and wide spreading, very much scattered from the various lengths of the secondary fruitstalks which grow in whirls and give the plant an airy, light, and an elegant appearance.

*Soft Millet. Millet Grass.* Wet woods common. [Frequent in Norfolk. Mr. WOODWARD.—Plentiful in woods about Wick Clifts. Mr. SWAYNE.] A. May, June.

CALAMAGROS'TIS. *Calyx* a husk of 2 valves, containing 1 flower: *Bloss.* hairy at the base. GMELIN.

(1) *With awns.*

lanceola'ta. C. Panicle spear-shaped, contracted, spike-like: bloss. strap-shaped, hairy at the base: awn on the back straight, short: straw branched.

*E. bot.* 403–*Fl. dan.* 280.

*Calyx* flexible, nearly membranaceous, microscopically rough: *valves* awl-spear-shaped, the out ¼ line longer than the other. *Bloss.* 1 line long, membranaceous, tapering to a point; point cloven, with an exceedingly minute awn rising from the cleft, often but just taller than the end of the valve. Dr. STOKES. There is reason to doubt whether this species has ever been found in England. Mr. Woodward favoured me with a sight of his Earsham wood plant, which seems not to differ from the C. Epigejos except in having the leaves narrower than usual.

*Small Reed.* Arundo *Calamagrostis.* LINN.—[On the side of a ditch on the borders of Aqualate Meer, Shropsh. Dr. STOKES. —Earsham Wood, Norf. Mr. WOODWARD.—Hardwick Wood; Wood Ditton; Park Wood. Mr. RELHAN.—Castle Eden-dean. Mr. ROBSON.] P. June.

C. Panicle stiff and straight: blossoms small, hairy at the base: leaves flat. Epige'jos.

*E. bot.* 402–*H. ox.* viii. 8. 2–*Scheuch. pr.* 5–*Ger. em.* 9. 1–*Scheuch.* 3. 3. *C. D.*

Four or 5 feet high, unbranched. *Leaves* stiff, harsh. *Panicle* very large. *Calyx* rough and strong. *Bloss.* thin and skin-like. *Awn* from the back of the blossom very slender, with difficulty found on account of the long hairs from the base of the blossom besetting it.

*Wood Reed.* Arundo *Epigejos.* LINN.—Arundo *Calamagrostis.* HUDS. and Bot. arr. ed. ii. Moist woods and hedges. [Ripton Wood, Huntingdonshire. Mr. WOODWARD.] P. June, July.

(2) *Awnless.*

C. Panicle spike-like: blossom hairy at the base: leaves edges rolled inwards, pointed and thorn-like at the end. arena'ria.

*E. bot.* 520–*Fl. dan.* 917–*H. ox.* viii. 4. *row* 3. 16–*Clus.* ii. 221. 1–*Lob. obs.* 45. 3–*Park.* 1198. 3–*J. B.* ii. 512. 1–*Ger.* 38. 3–*C. B.* 67–*Ger. em.* 42. 3–*Scheuch.* 3. 8. *J. B. C.–Mont.* 92.

*Leaves* whilst growing frequently flat, with green and white streaks. *Spike* 4 to 6 inches long, ¼ inch broad. *Calyx* twice as long as the blossom.

*Sea Matweed. Marram. Helme. Sea Reed.* Arundo *arenaria.* LINN.—Sea shore. [At Ryde, in the Isle of Wight.] P. June, July.*

* Grows only on the very driest sand upon the sea shore, and prevents the wind from dispersing the sand over the adjoining fields, which is not unfrequently the case where this plant is wanting. Many a fertile acre has been covered with sand and rendered useless, which might have been prevented by sowing the seeds of this plant upon the shore. The Dutch have profited by the knowledge of this fact. LINN. Queen Elizabeth on this account prohibited the extirpation of it. It is planted, Mr. Woodward informs me, on some of the flat coasts of Norfolk to repel the sea. He observes that as soon as it takes root a sand hill gathers round it, and thinks that some of our sandy cliffs may have thus been formed. Newborough, in Anglesea, subsists chiefly by manufacturing it into mats and ropes.

variega'ta. C. Panicle large, loose, strap-spear-shaped: leaves broad, flat: straw simple.

*H. ox.* viii. 6. 41–*Fl. dan.* 259–*Park.* 1273. 2–*C. B. th.* 37 *and* 92–*Leers* 7. 3–*Mont.* 59.

*Stem* and leaves smooth, the latter ½ an inch or more in breadth. Panicle 5 to 8 inches long, 1 to 2 in breadth, stiff and strong; varying in colour from almost white to pale green in the shade, and in the sun to rich shades of purple and yellow, with large dark red anthers.

*Phalaris arundinacea.* LINN.—Banks of rivers and ponds, not uncommon. P. July.*

Var. 2. Leaves glaucous green. RAY. Syn. p. 400. n. 1. Sea coast of Jersey, and near Lanperis.

Var. 3. Leaves striped.

This beautiful variety is often cultivated in our gardens under the name of Ladies-traces, or painted Lady-grass. The stripes are generally green and white, but sometimes with a purplish cast. It is figured in *Ger. em.* 26. 2–*H. ox.* viii. 6. 43–*Ger.* 24–*J. B.* ii. 476. 2. It has not been found wild with us in this striped state.

C. *colorata.* Hort. Kew.

AGRO'STIS. *Cal.* 2-valved. 1-flowered, rather smaller than the blossom: *Outer* petal smooth: *Summits* set lengthwise with stiffish hairs.

OBS. Such is the Ess. Char. given in the *Syst. veget.* and in the later editions of the *Sp. plant.* But as it does not apply very happily to any of our species the following is offered.

AGROS'TIS, *Cal.* 1-flowered, 2-valved, spear-shaped, acute, generally rough on the keel; longer than the blossom: *bloss.* 2 valves: *summits* hairy.

For similar reasons the following characters of the British species have been formed upon an attentive examination of the fructification only, and are disposed in this tabular form to facilitate the investigation of the species, which appeared necessary

* It is used to thatch ricks and cottages, and lasts much longer than straw. In the province of Scandia they mow it twice a year and cattle eat it. LINN. but it is of a hard texture and they are not fond of it. SCHREB. The oftener it is mown the more acceptable it is to cattle.

to be done on account of the difficulties they have occasioned, and the confusion in which they have been involved.

## SYNOPSIS OF THE SPECIES.

### (1) *With awns.*

A. *Spi'ca-ven'ti.* *Cal.* husks nearly equal: *bloss.* valves equal: *awn* twice the length of the blossom, fixed just beneath its point.

A. *palus'tris.* *Cal.* husks equal: *bloss.* outer valve twice the length and breadth of the inner: *awn* shorter than the blossom, fixed just beneath its point.

A. *cani'na.* *Cal.* husks nearly equal: *bloss.* valves very unequal: *awn* twice as long as the blossom, fixed just beneath its middle.

A. *vinea'lis.* *Cal.* husks equal: *bloss.* valves nearly equal: *awn* as long as the blossom, fixed just beneath its middle.

A. *pal'lida.* *Cal.* husks unequal: *bloss.* inner valve hair-like, very short: *awn* rather longer than the blossom, fixed beneath its middle.

A. *alpi'na.* *Cal.* husks unequal: *bloss.* with hairs at the base: *awn* twice the length of the blossom, fixed near its base.

A. *littora'lis.* *Panicle* spike-like: *calyx* awned.

### (2) *Without awns.*

A. *al'ba.* *Panicle* large, spreading: *calyx,* both valves serrulated on the keel.

A. *ni'gra.* *Panicle* scattered, branches bare at the base; florets few: *calyx,* inner valve smooth.

A. *stolonif'era.* *Panicle* compact; branches short, stiff, densely crowded with florets at the base: *calyx* inner valve smooth; outer only serrulated upwards.

A. *mari'tima.* *Panicle* large, rather spreading, longer branches naked at the base, shorter crowded with florets: *calyx* inner valve smooth, outer serrulated upwards.

A. *vulga'ris.* *Panicle* spreading: branches bare at the base; florets numerous; *calyx* inner valve smooth, outer serrulated upwards: *bloss.* inner valve but half the size of the outer; deciduous.

A. *min'ima.* *Calyx,* husks equal blunt, smooth.

(1) *With awns.*

Spi'ca-ven'ti. A. Petals entire, outer petal with a stiff, straight, and very long awn: panicle spreading. LINN.

*Fl. dan.* 853–*H. ox.* viii. 5, *row* 2. 3–*J. B.* ii. 462–*Leers* 4. 1–*Scheuch.* 3. 10.

*Straw* smoothish. *Leaves* flat, rough. *Sheath-scale* fringed. *Panicle* 5 to 12 inches long: branches from 2 to 4 inches. *Cal.* valves nearly equal, one of them slightly serrulated. *Bloss.* valves equal in length, the inner narrower. *Awn* straight, near thrice the length of the blossom, and fixed immediately below its point.

*Silky Bent.* Sandy fields common, particularly amongst corn. A. June. Aug.*

palus'tris. A. Calyx husks equal, blossom outer valve twice the length and breadth of the inner; awn straight, much shorter than the blossom, fixed a little beneath its point.

*Straw* nearly smooth, creeping and sending out fibrous roots and branches from the joints as in Agr. stolonifera. *Leaves* broad, very rough, those on the stem from 4 to 5 inches long, very taper-pointed; those on the branches shorter. *Sheaths* rough. *Sheath-scale* long. *Panicle* 6 inches long, branches $\frac{1}{2}$ to 2 inches, spreading, the longer ones bare at the base, the shorter ones crowded with florets down to the main fruitstalk. *Calyx,* husks equal, both serrulated on the keel, the inner only on its upper half. *Bloss.* $\frac{1}{4}$ shorter than the calyx, outer valve with a short awn, fixed beneath its point; inner valve but $\frac{1}{2}$ the length and breadth of the outer. *Awn* $\frac{2}{3}$ the length of the outer valve of the blossom, and fixed $\frac{1}{2}$ its own length below its point.

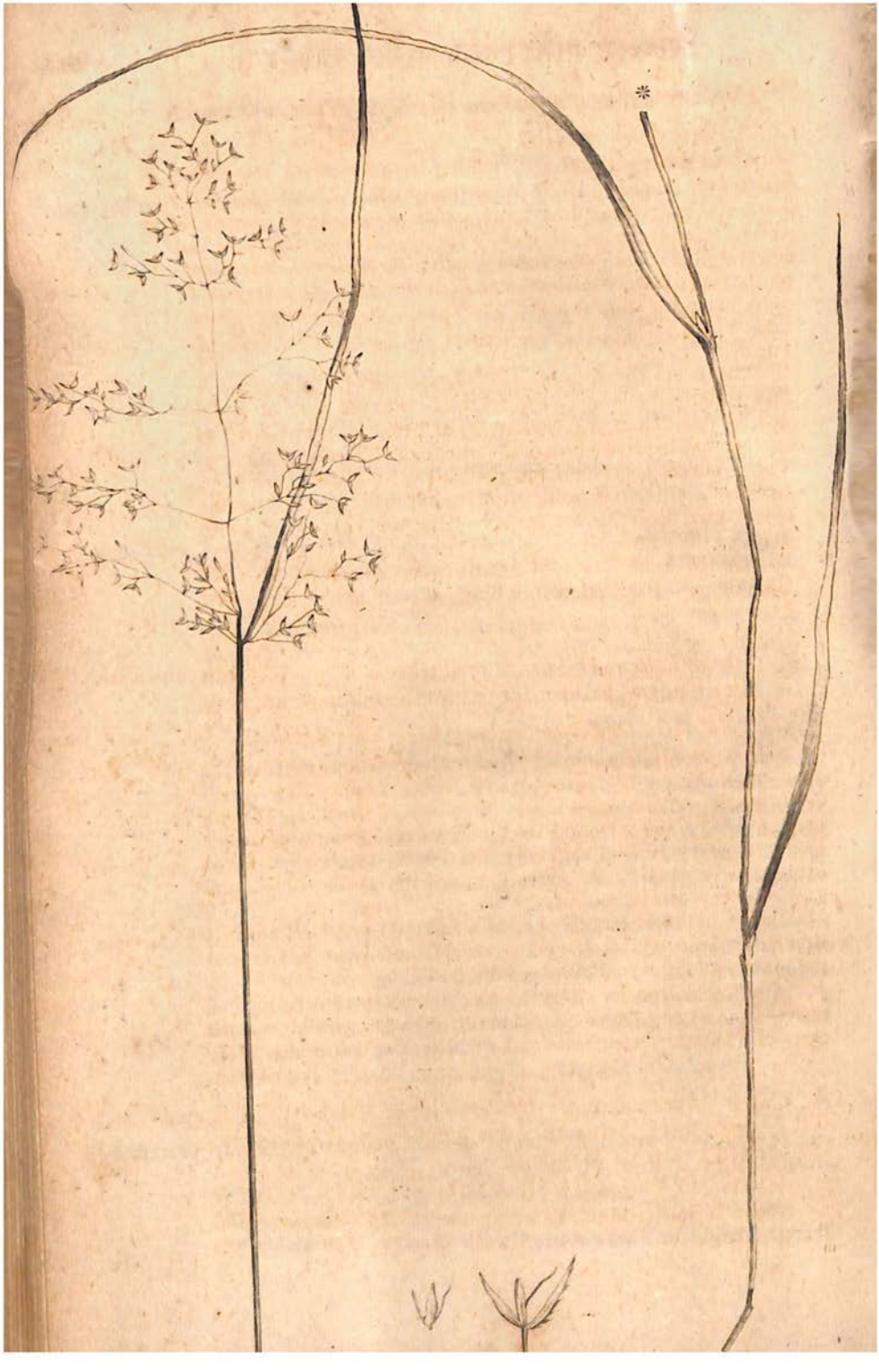
Specimen from Dr. Goodenough, who considers it as an awned var. of the Agr. alba *palustris* of Hudson; but until the facts supporting this opinion of the accidentality of the awns be fairly brought forward, and fully established, we must consider it as a distinct species, though certainly approaching very near to the Agr. alba in its general habit.

[In swamps and moist ditches. Dr. GOODENOUGH.]

P. June, July.

cani'na. A. Calyx valves nearly equal: blossom valves very unequal: awn jointed, twice the length of the blossom, fixed just below its middle.

* It is liable to be smutted. ST. Horses and goats eat it, sheep refuse it.



*Leers* 4. 2.—*Fl. dan.* 161, *(exact as to the flower, but seems a starved specimen.)*

About ½ a yard high; branching from the root. *Straw* and *Root-leaves* smooth. *Stem-leaves* roughish. *Sheath-scale* very short, cloven. *Panicle* 3 to 5 inches long, either purple or white. *Branches* 1 to 1½ inch. *Calyx* valves unequal in the flowering but equal in the seeding state; the *outer* only serrulated on the upper half; the *inner* smooth. *Bloss.* inner valve very minute, but ⅓ the length, and ¼ the breadth of the outer. *Awn* bent, twice as long as the blossom, and fixed just beneath its middle.

This is not the *Agr. canina* of LINN. nor of HUDS. though that trivial name is applied to it because it is the name of Leers and Fl. dan. and as the *Agr. canina* of LINN. is now referred to another species, no confusion can arise from the use of this name. The specimens now before me perfectly accord with the fig. of LEERS as well as with his description, but they do not shew the brown knot upon the awn mentioned by him, but he observes that this does not appear until the flower is old.

[On the Long Down, a meadow near Blymhill. Rev. S. DICKENSON.—High Moors in Scotland, not unfrequent. Mr. BROWN.] A. June. Aug.

A. Calyces coloured: awn from the back of the blossom almost as long as the calyx: straws ascending. SCHREB. *vinea'lis.*

*Scheuch.* 3. 9. *D. E. (awns much longer than described.)*

*Straw* smooth, trailing and striking out fibrous roots at the joints then ascending; from 6 to 12 inches high. *Root-leaves* very slender, smooth, numerous. *Stem-leaves* broader, 1½ inch long; rough. *Panicle* from 3 to 5 inches long: *branches* ½ to 1½ inch. *Calyx* valves equal, only the outer serrulated. *Bloss.* valves nearly equal. *Awn* straight, as long as the bloss. and fixed just beneath its middle.

The panicle and its branches of a fine red purple, but as it ripens the florets change to yellow brown, and both the awn and the inner valve of the blossom are deciduous.

[On heaths, and in moist pastures which have been long in turf.—In the Long Down, at Blymhill. Mr. DICKENSON.—Some parts of Hounslow Heath abound with it. Dr. GOODENOUGH.] July—Sept.

A. Calyx valves unequal: blossom inner valve hair-like, very short: awn somewhat longer than the blossom, fixed below its middle. *pal'lida.*

## PLATE XXII.

About 18 inches high. *Straws* smooth. *Root-leaves* bristle-shaped, roughish. *Stem-leaves* much broader, flat above the

sheathing part, and roughish. *Sh. Scales* long, pointed. *Panicle* a delicate pale green, about 3 inches long. *Branches* from ½ to 1 inch, but little expanding. *Calyx* valves unequal, the outer serrulated all along the keel, the inner only towards the point. *Bloss.* inner valve deciduous, more like a very short and slender hair than a husk, and so minute that it is with difficulty found. *Awn* jointed, very slender, deciduous, somewhat longer than the blossom, and fixed beneath its middle.

This I apprehend is what has sometimes been considered as an awned *Agr. alba*; it is clearly what has been called an awned *Agr. capillaris*, (meaning our *vulgaris*,) but it is sufficiently distinct from both.

[New Forest, Hants.] May, June.

alpi'na. A. Leaves like bristles: panicle compact: calyx rough, coloured: bloss. outer valve with a jointed awn on its back.—Gmel. Hairy at the base. St.

*Scheuch. prodr.* 4. 1.

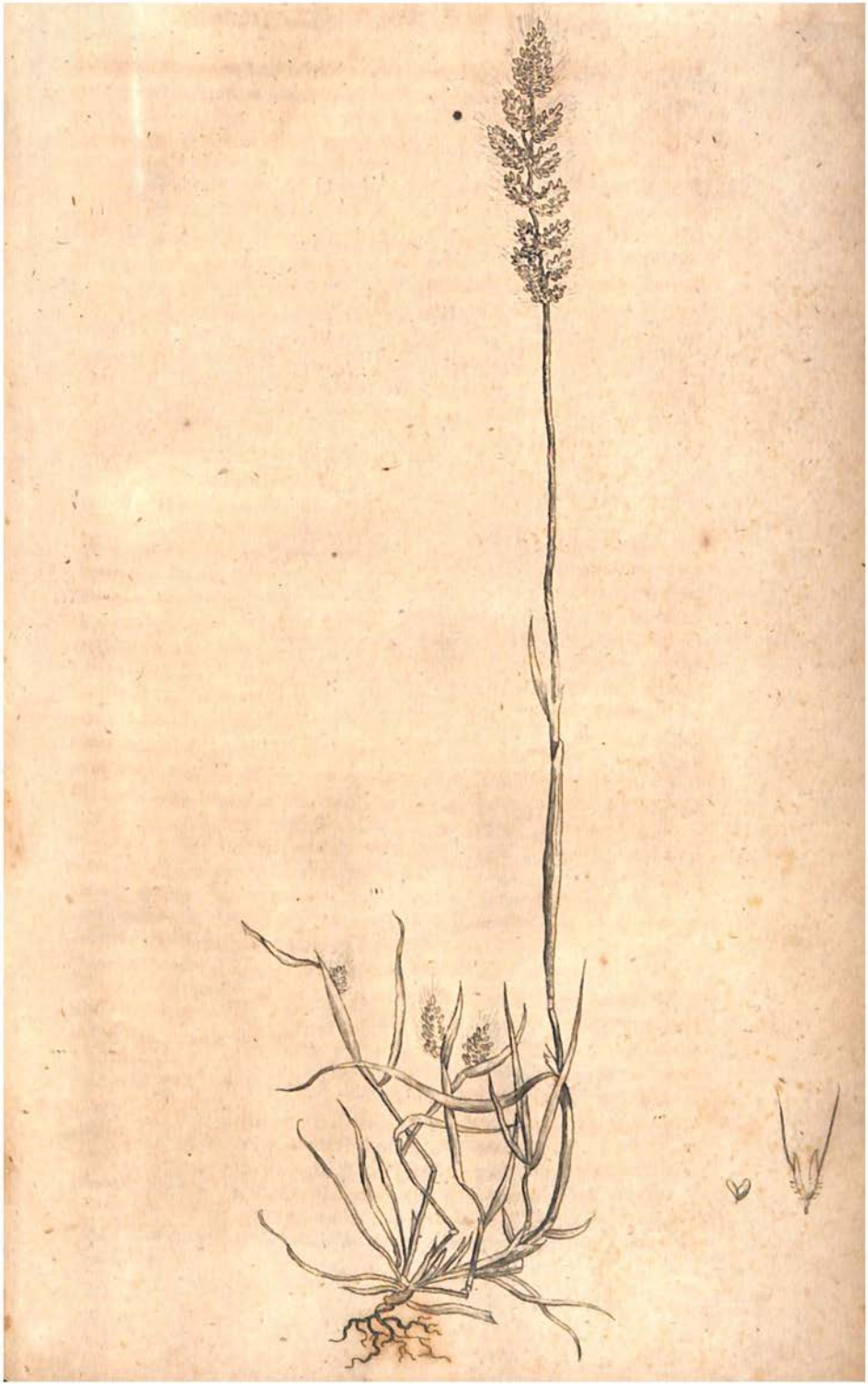
About 9 inches high, just sensibly rough to the touch. *Root-leaves* numerous, like bristles, in bundles, about ¼ the height of the straw, smooth when old. *Sheath-scale* long, pointed. *Panicle* 2 to 3 inches long, purplish blue: branches not spreading, thickly set with florets, seldom more than ½ inch long. *Calyx* valves unequal, both smooth below, but serrulated upwards; nearly twice as long as the blossom. *Bloss.* surrounded at the base by a few fine short hairs: *outer* valve with 2 or 4 minute projecting points at the end: *inner* valve very minute, not longer than the germen. *Awn* jointed, twice the length of the blossom, and fixed near to its base. The hairs at the base of the blossom distinguish this from every other British species.

*Agrostis canina* β. Hudson. [On the higher Downs in Dorsetshire, and the higher parts of the New Forest, Hants, plentiful.] P. May, June.

littora'lis. A. Panicle somewhat spike-like: calyx husks awned.

PLATE XXIII.

From 5 to 7 inches high; often several flowering stems from the same root. *Straw* bent at the bottom, straight upwards, smooth. *Leaves* slender, rough, 2 or 3 on the stem, sheathing; *sheath-scale* spear-shaped. *Panicle* compact, spike-like, 1¼ to 2½ inches long, hardly ½ inch broad, pale green, branches extremely crowded, close. *Calyx*, husks the lower half rough on the keel, upper half smooth, awned. *Awns* 3 times as long as the husks, fixed below its point, 1 to each husk, straight, diverging. *Bloss.* 2 valves, smooth, awnless, one much broader than the other; ¼ the length of the calyx. This is the only British species with the awns on the calyx.



Specimens from Wells, on the Norfolk coast, where I understand the plant was first found by Sir JOSEPH BANKS. P. June.

(2) *Without awns.*

A. Panicle large, spreading: calyx both valves serrulated: al'ba. straw trailing.

Var. 1. Panicle branches crowded with florets at the base.

*Leers* 4. 5–*H. ox.* viii. 6. *row* 1. 27.

*Panicle* loose, calyxes awnless, equal. Sp. pl. *Stem* striking root at the joints. *Flowers* roughish. LINN. *Panicle* either brown or green. Pet. gram. *Straw* smooth, upright, but trailing at the base. *Leaves* broad, rough, those on the stem 3 to 5 inches long. *Sheaths* rough. *Sheath-scale* long, spear-shaped. *Panicle* 5 to 8 inches long; branches 1 to 1½ inch long, rather upright, crowded with florets quite down to their union with the main fruit-stalk. *Calyx* both valves serrulated on the keel. *Bloss.* inner valve but half the length and breadth of the outer.

The specific characters affixed by LINNÆUS to the *Agr. alba* and *stolonifera*, are so insufficient to distinguish them, that other botanists have been greatly at a loss how to refer to those species; he does not cite any figure of either, and his synonyms afford but little assistance. Thus under *Agr. alba*, the reference to PET. *gram.* 118 and 119, only informs us that it is a large grass, and that the panicle is either brown or green. The reference to *Ray Syn.* 404, tells us little more than that it is an awnless grass, and grows in tufts. Under *Agr. stolonifera* the most instructive reference is to *Scheuchz.* 128 and 130, but SCHEUCHZER's descriptions are hardly sufficient to remove the difficulty, and we have still no figure to assist us. Mr. HUDSON, apparently to get rid of difficulties, lumps them altogether under the comprehensive title of *polymorpha*, including no less than 7 species and varieties, amongst which we find the *capillaris*, the *pumila*, the *stolonifera*, the *alba*, and the *sylvatica* of LINNÆUS, a list not only comprehending all but one of the awned species of Agrostis, then known as natives, but also some species which have not yet been found with us. It is sufficient at present to say, that the figure of LEERS referred to above, is a very exact representation of the plant now spoken of, and this LEERS calls the *Agr. alba*, though not without a mark of doubt.

*Gramen alpinum, panicula fere arundinacea, spadiceo-viridi. Scheuchz.* 131. Wet ditches, bogs and marshes. P. June, July.

Var. 2. Only the shorter branches of the panicle crowded with florets at the base: calyx both valves serrulated.

*Panicle* 3 to 5 inches, branches ½ to 1½ inch long, the longer branches bare at the base, the shorter ones crowded with florets. *Calyx* both valves serrulated on the back. *Bloss.* inner valve but half the length and breadth of the outer.

I believe it to be the preceding plant when growing in a drier situation. I have specimens which shew that they gradually run into each other.

[Amongst wheat, in light sandy loam, in a field called Church Hill, Blymhill, Salop. Mr. DICKENSON.] P. July—Sept.

Var. 3. Only the shorter branches of the panicle crowded with florets at the base; longer branches subdivided. *Cal.* inner valve only serrulated upwards.

*Roots* creeping, white, thick. *Straw* 2½ feet high; very thick, smooth. *Leaves* large, rough. *Panicle* of a beautiful purple, from 7 to 9 inches long; branches 1½ to 2½ inches long. *Calyx* outer valve strongly serrulated, inner with only a few minute serratures near the point. *Blosf.* inner valve but half the length and breadth of the outer.

It has large creeping roots, resembling those of Triticum repens, and so vigorous and pointed at the end, as to perforate potatoes which lay in their way. The stems run upon the surface of the ground to the extent of two feet or more, like those of the *Agr. stolonifera*, but the latter has only small fibrous roots striking out of the joints of the stem, which lie upon the ground to a great extent. Mr. DICKENSON.

In loamy soil, amongst wheat, and even in very light sandy soil under the Norf. course of turnip husbandry. [In a field at Blymhill, called Church-hill, amongst potatoes, and in another called Pyehill, amongst wheat. Mr. DICKENSON.] P. July—Sept.

Var. 4. Panicle branches bare at the base: subdivided: calyx both valves serrulated, inner only on the upper half.

*Straw* trailing, striking root, thick, near a yard long. *Leaves* large, very rough. Mr. DICKENSON. *Panicle* 8 or 9 inches long, pale green; branches 1½ to 2½ inches long; bare at the base, subdivided upwards.

[Amongst wheat, in light land. Mr. DICKENSON.]
P. July—Sept.

All the above varieties are sufficiently common; the 2d. 3d. and 4th. constitute the greater part of what is called *squitch* in light arable lands. In some places it is called *white squitch*, to distinguish it from the *Agr. nigra*, and *stolonifera*, which are called *black squitch*, or *couch*.

ni'gra. A. Panicle scattered; branches bare at the base, florets few: calyx inner valve smooth: root creeping.

*Leers* 4. 6.

*Root-leaves* long and slender. *Straws* upright, 18 inches high. *Panicle* meagre. *Fruit-stalk* fine deep purple. *Florets* deep brown. Mr. DICKENSON. *Straws* numerous, upright, slender, weak, a foot high; the lower joints sending off branches which creep on the ground. *Leaves* slender, flat, weak, smooth, generally shri-

velled. *Leaf-scale* short, blunt. LEERS. *Stem-leaves* 3 to 4 inches long. *Panicle* 4½ to 5½ inches, branches 1 to 1¾, very slender, straight, expanding, of a blackish brown colour. *Florets* few, thinly scattered at the ends of the branches. *Calyx* outer valve serrulated, inner smooth, rather shorter. *Bloss.* inner valve barely half the length and breadth of the outer.

*Gramen caninum supinum minus. Scheuch.* 128. *Gramen montanum miliaceum minus, radice repente. Ray Syn.* 402. given upon a supposition that there is no mistake in his reference to SCHEUCH. This plant has sometimes been considered as the *Agr. stolonifera* of LINN. but it is very different from that, and seems to have been figured by no one but LEERS, who also is inclined to refer it to the *stolonifera*, but subjoins a mark of doubt. Both this and the real A. *stolonifera* are indifferently called by the farmers *black squitch.*

[In marley, clayey, and other cold wet soil, whether in grass or under tillage. Mr. DICKENSON.] P. July. Oct.

A. Panicle compact, branches stiff, short, densely crowded with florets at the base: calyx inner valve smooth, outer only serrulated upwards. stolonifera.

*Lob. ic.* 21. 1–*Park.* 1174. 4–*Ger. em.* 26. 1–*Tabern.* 516. vi.–*C. B. th.* 13–*Ger.* 24. 1–*J. B.* ii. 480. 1, *was probably intended for it, but it is a miserable cut.*

*Panicle* branches straddling, awnless. *Straw* creeping. *Calyxes* equal. LINN. *Straws* creeping, smooth, purplish, striking out fibrous roots from numerous joints. *Leaves* very rough, 1 to 3 inches long; broad in proportion to their length. *Sheaths* smoothish. *Sheath-scale* rounded. *Panicle* 2 to 2½ inches long; branches ½ to ⅜ of an inch, crowded with florets quite down to the union with the main stem. *Calyx*, outer valve only serrulated on the upper half; inner valve smooth. *Bloss.* inner valve ⅔ the length and ¼ the breadth of the outer.

*Gramen radice repente, panicula densa spicata, spadiceo viridi, locustis exiguis muticis. Scheuch.* 130. *Ag. stolonifera.* LINN. *Black Squitch.* Moist meadows and pastures: also in cold stiff arable lands. [In a close called the Far Wet Croft, at Blymhill, Staffordshire. Mr. DICKENSON.] P. July—Sept.*

* In clayey arable lands this is a troublesome couch or squitch, for when such lands are broken up and fallowed, the roots are with difficulty separated by the harrows from the adhesive soil. Our farmers call it black squitch. Mr. DICKENSON. At Orcheston, about 19 miles from Salisbury, there is a small tract of meadow land, which is sometimes watered in the winter by means of a spring flowing out of a limestone rock. It is mown twice in the summer, and after a favourable season for watering, the first crop is near 5 tons per acre; the second about half as much. This extraordinary produce very properly excited the attention of the Agricultural Society established at Bath, and from the reports made to

Var. 1. *minor.* Very diminutive, from 2 to 3 inches high: stiffer, and more glaucous than the foregoing. Peculiar to the sea coast. Mr. GRIFFITH.

mari'tima. A. Panicle large, rather spreading; branches, longer ones naked, shorter ones crowded with florets at the base: calyx inner valve smooth, outer serrulated, upwards.

*Dod.* 558–*Ger. em.* 23. 1.

*Straw* creeping, striking out fibrous roots from the joints, then ascending; 8 or 10 inches high, smooth. *Leaves* and sheaths rough. *Panicle* 2 to 4 inches long, branches 1 to $\frac{3}{8}$ of an inch. *Cal.* outer valve serrulated on the upper half, inner valve smooth. *Bloss.* inner valve one half the length, and one third the breadth of the outer. It may possibly prove only a variety of the *stolonifera,* but until evidence be given of that, the roughness of the leaves, the different structure of the panicle, and the smaller size and greater plumpness of the florets are sufficient grounds of distinction.

[Specimens from Dr. PULTENEY, gathered in the sand on our southern sea coasts.] P. June, July.

vulga'ris. A. Panicle spreading, branches bare at the base: florets numerous: calyx inner valve smooth, outer serrulated upwards: blossom inner valve but half the size of the outer; deciduous.

*Gram. pasc.–Fl. dan.* 163–*Mus. rust.* iv. 2. 10–*Stillingfl.* 3–*Leers* 4. 3.

*Straw sheaths* and lower leaves smooth; *upper leaves* rough. *Sheath-scale* half egg-shaped, all the leaves very slender. *Panicle* fine glossy purple, 3 to 6 inches long: *branches* 1 to 2 inches, very slender and delicate; pretty much expanded. *Florets* very small, numerous. *Calyx* valves equal, acute; outer serrulated on the upper half, inner smooth. *Bloss.* inner valve narrower and but half the length of the outer.

This plant has been very generally supposed to be the *Agr. capillaris* of LINN. an error which originated with LINNÆUS himself, who first distinguished and characterized his capillaris in the *Fl. lappon,* and in the 1st edit. of *Sp. Pl.* but afterwards confounded it with the plant now in question. We are indebted to

that society, it appears that the crop principally consisted of the Agrostis stolonifera. Such also was the opinion of Mr. STONHOUSE, who seems first to have noticed it in *Howe's Phytologia,* p. 51, referring to *Gerard,* 26. 1. The attention which Mr. SWAYNE has since given to this subject makes it probable that this grass is only found in the second crop, and that the first principally consists of the Poa trivialis *palustris.* See vol. I. II. of the *Memoirs of Bath Agr. Soc.*

Dr. SMITH for this discovery. See his *Icones Plant. fasc.* iii. *p.* 54. In general habit the plants are certainly very much alike, but the real *Agr. capillaris* has the stem, the leaves, and the husks of the calyx quite smooth, as well as every other part of the plant, whilst in the *Agr. vulgaris* the stem leaves are rough, and the husks of the calyx are serrulated on the keel as they are in every other British species of Agrostis, except the *minima*. Again, in the *capillaris* the valves of the blossoms are equal, but in the *A. vulgaris* the inner valve is only half the size of the outer.

*A. capillaris. Huds.* and *Bot. arr.* ed. ii. Very common, but chiefly grows on poor dry and sandy land. It is disliked by cattle, as are the Bents in general. Mr. SWAYNE. P. May. July.

Var. 2. *dwarf.*

*Lightf.* ii. *frontispiece.*

Whether the plant Mr. LIGHTFOOT found in Scotland be the real *Agr. pumila* of LINNÆUS I have not the means of deciding, but neither his fig. nor description well agree with the character of that, the panicle not being 1 rowed, or pointing in one direction. The specimens now before me from Scotland and from Yarmouth, are only starved plants of the *Agr. vulgaris*, and when cultivated in a garden from seed, produced perfect plants of the usual size and appearance.

*Dwarf Bent. Agr. polymorpha pumila.* Huds. *Agr. pumila.* Lightfoot. In poor barren soil. [Found on Yarmouth Danes, by Mr. WOODWARD.] P. July.

Var. 3. *Sylvatica.* Blossom after flowering growing out to twice the length of the calyx.

*Agrostis polymorpha* sylvatica. *Hudson. Gramen miliaceum sylvestre glumis oblongis. Pet. conc.* 121. *Ray Syn.* 404. BUDDLES *Woodmillet-grass*, first discovered by him in Bishop's Wood, Hamstead. *Agr. sylvatica*, LINN. if he has rightly quoted RAY, and HUDSON, but he speaks as if the calyx and not the bloss. was the elongated part. The seed also grows unnaturally long and black. The blackness on the main fruit-stalk and at the base of many of the florets indicate a state of disease, but whether it is produced by an insect, or a kind of smut, remains to be determined, though I think it probably the effect of too much moisture. In one specimen the calyx was preternaturally long and dark purple at the end, but still the greatest elongation was that of the blossom.

In Hornsey Wood. HUDS. P. June. Aug.

A. Panicle very slender, like a thread. LINN. min'ima.

*H. ox.* viii. 2. *row* 3. 10–*C. B. th.* 26.–*J. B.* ii. 465. 4–*Scheuch.* 1. 7. 1.

Plant about 2 inches high, very slender and of a delicate pale green; smooth; even the valves of the calyx are smooth, which

is not the case with any other British species of Agrostis. *Spike* ½ of an inch long, containing about 6 florets. The structure of the florets seems to correspond with that of the *Agr. capillaris* of the *Linn. Herbarium*, (see *Smith's Icones Fasc.* iii. p. 51,) but in this the florets form a spike, in that a panicle. *Spike-stalk* zigzag.

It is difficult to decide the proper place of this elegant little grass. The florets being perfectly sitting on each side of a zigzag spike-stalk, would direct us to the last subdivision of the grasses, (see p. 62.) but there is no genus in that subdivision to which it is in the least allied. The florets have the habit of a Poa, but unlike all others of that genus there is only one in each calyx, and the calyxes are strictly seated upon a spike-stalk. Its dissimilitude to the Agrostis has already been noticed.

Found by Mr. STILLINGFLEET in Wales. A. July.

## HOL'CUS. Florets hermaphrodite and male. *Cal.* husk 2 valves, with 1 to 3 florets. Hermaphr. *Awn* twice the length of the blossom. Male. *Awn* as long as the blossom.

lana'tus. H. Husks 2-flowered, woolly: hermaphrodite floret awnless: male floret with a bent awn, inclosed in the calyx.

*Gram. pasc.–Dicks. h. s.–Curt.* 228–*Fl. dan.* 1181–*Schreb.* 20. 1–*Leers* 7. C–*J. B.* ii. 466. 3–*Scheuchz.* 4. 24–*A. B.* –*Park.* 1155. 1–*Anders.*

The whole plant of a velvet-like softness. LINN. *Male floret* containing a pistil. *Germen* similar to that of the fertile floret, but much smaller. *Styles* awl-shaped, simple. *Seed* very minute, abortive. CURT. *Panicle* from 2 to 8 inches long, and from 1½ to 3½ inches broad. *Leaves* rather rough but not harsh to the touch. *Calyx* husks unequal. Both florets on short pedicles, the upper one hermaphr. awnless; the other male, with an awn not longer than the blossom.

*Meadow Soft-grass.* Meadows and pastures, common.

P. June, July.*

mol'lis. H. Roots creeping: joints woolly: awn protruding out of the calyx. CURT.

*Dicks. h. s.–Fl. dan.* 1059–*Curt.* 323–*Leers* 7. 7–*Schreb.* 20. 2–*Scheuch.* 4. 25.

* This grass, though vegetating rather late in the season, produces an abundant crop; but it is not very agreeable to cattle, and makes a soft, spongy hay, very unfit for horses. It abounds chiefly in light and moist soils, such as turf or peat land. A plot of it, sown by the writer of this, was entirely killed by a long frost. Mr. SWAYNE.

The Linnæan character which represents one of the florets as male, does not agree with our plant, we have therefore adopted that given by Mr. Curtis. *Root* creeping. *Leaves* soft. *Panicle* 3 to 5 inches high, and $1\frac{1}{2}$ to $2\frac{1}{2}$ broad. *Calyx* husks nearly equal. *Florets* both hermaphrodite, 1 on a pedicle, awned, hairy at the base; awn twice the length of the blossom: the other sitting, awnless, and not hairy at the base. The young botanist would expect to find this plant in the genus Aira, and certainly not without reason.

*Creeping Soft-grass.* Cornfields, hedges and woods. P. July, Aug.

H. Calyx 2-flowered: awn of the male floret knee-bent, fixed to the back of the blossom. GMELIN. See Avena *elatior*. avena'ceus.

## AIRA. *Cal.* 2-valved; 2-flowered; without any intervening substance between the florets.

### (1) *Florets awnless.*

A. Panicle expanding: florets without awns, smooth, longer than the calyx: leaves flat. aquat'ica.

*Curt.-Vaill.* 17. 7–*Floret, Mont.* 60.

*Straw* with two joints. SCOP. About a foot high. *Leaves* broad, smooth, short. *Panicle* 4 or 5 inches long, 2 to 3 inches broad when expanded; purplish.

*Water Hair-grass.* Grows generally in the margins of pools and standing waters, seldom on banks. Mr. SWAYNE.—S. W. side of Edgbaston Pool. P. June, July.

### (2) *Florets awned.*

A. Leaves flat: panicle expanding: petals woolly and awned at the base: awn straight, short. cœspito'sa.

*H. ox.* viii. 5. *row* 3. 17, *and row* 2. 1–*Leers* 4. 8–*Ger.* 5. 1 *and* 2–*Ger. em.* 5. 1 *and* 2–*C. B. th.* 34. 2 *and* 35–*Park.* 1158. 2 *and* 3–*Dod.* 561. 1–*J. B.* ii. 461. 3–*Fl. dan.* 240 –*Scheuch.* 5. 2 *and* 3.

Sometimes trails on the ground to the length of several feet.—*Panicle* of a beautiful purple silky appearance. Mr. DICKENSON; 6 or 8 inches high, or more, and half as broad. *Awns* the length of the blossom.

*Turfy Hair-grass.* Moist meadows and woods. P. June—Aug.

Var. 2. Panicle viviparous. LIGHTF.—On Highland mountains. [In Yorkshire. Mr. MILNE.] Oct.*

* It is very apt to grow in tufts, and occasions irregularities in the surface of meadows. Cows, goats, and swine eat it. Horses are not fond of

flexuo'sa. A. Leaves like bristles: straws almost naked: panicles diverging: fruit-stalks serpentine.

*Schreb.* 30–*Fl. dan.* 157–*Scheuch. pr.* 6. 1–*H. ox.* viii. 7. *row* 3. 9. *at the corner, &c.*–*Leers* 5. 1.

About a foot high when young, taller when old. *Panicle* fine glossy purple, from 2 to 3 inches long, and $\frac{1}{2}$ inch broad; branches serpentine and nearly upright in its young state, the florets mostly pointing one way; as it approaches maturity the purple fades, the branches expand so that the panicle then measures 1 or $1\frac{1}{2}$ inch across. *Blossoms* woolly at the base; awn knee-bent, half as long again as the blossom.

*Heath Hair-grass.* Heaths, woods and barren pastures. [Wick Cliffs. Mr. SWAYNE.—Rocky moors in the North. Mr. WOODWARD.—Crib y Ddeseil. Mr. GRIFFITH.—Dry woods in Sutton Park, Warwickshire, and woods in the New Forest near Stoney Cross.] P. June—Aug.

monta'na. A. Leaves like bristles: panicle slender and compact: florets hairy and awned at the base: awn twisted and longer.

*Scheuch. itin. p.* 455. *f.* 15–*Scheuch. pr.* 4. 4–*Stilling.* 4–*Leers* 5. 2–*Florets, Scheuch.* 4. 16. A. B. C.

If the Aira montana of the Linn. Herbar. be really different from the A. flexuosa, I apprehend it has not been found in this island, for all which I have seen are decidedly the same species, only that when the plant gets older, the straw increases its length, the panicle spreads, and its fine purple colour fades; in which state it has been called A. *flexuosa*, and in its younger state A. *montana*. The figures in Scheuchzer's itinerary and prodromus, quoted by Linnæus in fl. Suec. countenance this opinion. Having communicated these ideas to Mr. Relhan, who thought he had found the montana in Cambridgeshire, he authorizes me to say that his plant is only the flexuosa.

High heaths and sandy pastures. P. July, Aug.

Var. 2. *setacea.* Awns twice the length of the florets. HUDS. [Stratton Heath, Norfolk. Mr. CROWE.]

of it. The leaves of this grass are the roughest and coarsest of all the grasses growing in pasture or meadow grounds, and therefore cattle will seldom touch them, unless forced by hunger. It produces an abundant quantity of leaves, and few flowering straws; has a very disagreeable appearance in meadows, and often occupies much ground which might be made to produce better grasses. To get rid of it, the land should first be drained, and then the tufts of this noxious weed should be pared up and burnt. The ashes will be a good manure. Called by the common people *Hassocks, Rough Caps, Bulls Faces*, Mr. SWAYNE.

c
a

A. Leaves like bristles: sheaths rough; flowers in a panicle: awn not longer than the calyx. canes'cens.

PLATE XXIV.—*Fl. dan.* 1023; *but the panicle much larger and more expanded than as it grows with us—Lob. adv. alt.* 466. 1—*J. B.* ii. 463. 2.

*Awns* encompassed with little teeth in the middle part, brown and thick below, but whitish, slender, and somewhat club-shaped above. After flowering the panicle rises higher out of the sheath; before flowering it resembles a spike. This is paler than most other grasses, and from that circumstance may be distinguished at first sight. LINN. *Panicle* scarcely ever coming out of the sheath. No plant alters its appearance more completely when cultivated than this, growing much larger, quite upright, and losing entirely its grey colour. Mr. WOODWARD. From 4 to 6 inches high. *Root-leaves* very slender. *Stem-leaves* broader. *Panicle* spike-like, purplish, $1\frac{1}{2}$ inch high, $\frac{1}{2}$ inch broad. *Calyx* husks unequal; (Pl. 24, *a.*) Awn the length of the shorter husk, nearly twice as long as the blossom. The structure of the awn is remarkable, the lower half is thicker, opake, and yellow brown, the upper half very fine, whitish, semi-transparent, fixed to the centre of the broad top of the opake woody part, which is encompassed with very minute teeth. (Pl. 24. *c.*)

*Grey Hair-grass.* Sandy shores. [Yarmouth Danes. Mr. WOODWARD.] P. July, Aug.

A. Leaves like bristles: sheaths smooth, angular with furrows: panicle spike-like: awn taller than the calyx. præ'cox.

*Dicks. h. s.—Curt.* 146—*Fl. dan.* 383—*Pluk.* 33. 9—*Ray* 22. 2.

From 2 to 5 inches high. Spike-like panicle 1 to $1\frac{1}{2}$ inch long, less than $\frac{1}{4}$ inch broad. *Bloss.* valves cloven at the end, nearly as long as the calyx. *Awn* twice as long as the calyx, in structure similar to that of the A. canescens, but wants the broad top to the lower opake part. Sufficiently distinct from the A. canescens, and flowers earlier.

*Early hairgrass.* Dry commons. [On dry parts of the New Forest.] Flowers in May. Seeds ripe in June. P.

A. Leaves like bristles: sheaths smoothish, furrowed: panicle wide spreading when ripe: awns taller than the calyx. caryophyllea.

*Dicks. h. s.—Curt.—E. bot.* 812—*Fl. dan.* 382—*H. ox.* viii. 5. *row.* 3. 11—*Stilling.* 5—*Scheuch. iter.* ii. 18. 2—*Barr.* 4. 1—*Scheuch.* 4. 15.

Varies very much in size, from 2 to 12 inches high. *Panicle* few-flowered; close whilst in flower, widely expanded when in seed. *Bloss.* shorter than the calyx. Awn twice as long as the blossom, fixed below its middle, yellow and opake in the lower, paler and finer in the upper part. The larger plants somewhat resemble the A. *flexuosa*, but want the zigzag fruitstalks and the woolliness at the base of the blossom. The smaller plants may be distinguished from the A. *præcox* by the panicle expanding when ripe, and by the awn being less than twice the length of the calyx. It is moreover an annual plant.

Sandy pastures, frequent. [On the beach at Lowestoff, Suffolk, and elsewhere. Woodw.—Roddyhill. Mr. Swayne.] A. July.

ME'LICA. *Cal.* 2-valved, 2-flowered, with a little substance on a pedicle betwixt the florets: *Nectary* 1 leaf: *Stamens* dilated at the base.

nu'tans. M. Petals not fringed: panicle drooping, undivided.

*Curt.—Fl. dan.* 962—*Schreb.* 6. 1—*C. B. pr.* 20. *and th.* 155—*Park.* 1151. 5—*Barr.* 95. 2. *and* 96. 2—*J. B.* ii. 434. 1—*Leers* 3. 4—*Scheuch.* 3. 16. *D. E. F.*

*Cal. valves* shorter than the blossom, dirty purple, *outer* egg-oblong, shorter; *inner* oval. *Bloss. valves* oblong; *outer* scored, whitish, sometimes tinged with purple; *inner* a good deal shorter, pubescent. St. Panicle 3 or 4 inches long, few flowered, flowers mostly pointing 1 way; branches only 3 or 4, and those not subdivided.

*Melica montana.* Huds.—*Mountain Melic.* Mountainous woods in Yorksh. Westmorel. and Cumberl. [Helkswood, by Ingleton, Yorksh. Mr. Woodward. Grasswood, near Conniston. Mr. Caley.] P. June, July.*

cæru'lea. M. Panicle compact: flowers cylindrical: straw without knots.

*Curt.—E. bot.* 750—*Fl. dan.* 239—*H. ox.* viii. 5. *row* 3. 22—*Leers* 4. 7.

*Root* bulbous. *Leaves* flat. *Straw* for a great length without knots. *Florets* awl-shaped, rolled in at the edges, sometimes 3, and in very rich soil, 4 in each calyx. A *pedicle* knobbed at the end rises from betwixt the florets. *Anthers* purplish blue. *Pistils* purple. Linn. *Straw* with only 1 knot, which is close to the root. Scheuch. *Straw* near half a yard high. *Panicle* 3

* In the isle of Rasa they make this grass into ropes for fishing nets, which are remarkable for lasting long without retting. *Pennant's Tour* 1774. p. 297. Cows, horses, and goats eat it.

to 5 inches long; branches few, distant, nearly upright. Calyx with 2, 3, or 4 florets, but mostly with 2; and though the number of florets, and its general habit, which it must be confessed but ill accords with that of the other Melicas, have induced some to consider it as an Aira, the presence of the pedicle marks its real situation. In some specimens gathered in the New Forest the florets are a little hairy at the base, which circumstance seems to have induced Haller to rank this species as an Arundo.

*Purple Melic. Aira cærulea Sp. pl.* Huds. Leers. Scop. *Arundo.* Hall. Boggy barren meadows and pastures. [New forest, Hants.] P. June, July.*

M. Panicle thinly set: calyx with 2 florets, one hermaphrodite, the other neutral. uniflo'ra.

*Curt.* 301–*Fl. dan.* 1144–*Mont.* 2. 1–*H. ox.* viii. 7. 49–*Villars* 3.–*Lob. adv. alt.* 465. 1–*J. B.* ii. 434–*Park.* 1151. 3.

*Little spike of neutral florets,* inversely egg-shaped, between the blossom and the inner valve of the calyx, together with its fruitstalk as long as the blossom, composed of the rudiments of 3 and even 4 florets, each consisting of 2 membranaceous valves similar in shape to those of the perfect floret; each supported on a fruitstalk of its own, rising from the base of the inner valve of the last rudiment; and each as small again as the floret below it. No stamens or pistils in any of them. Conjectured it to be a var. of the *nutans,* and called it *M. nutans uniflora.* From 15 to 18 inches high, or more. *Straw* angular, ascending. *Panicle* of few flowers, scattered, 3 to 5 inches long; branches 3 or 4, distant, pointing one way, rarely subdivided, bowed whilst in flower, afterwards upright.

*M. Lobelii.* Villars. *Melica nutans.* Huds.—*Wood Melic.* Woods and hedges, not uncommon. [Lanes in Devonshire very frequent. Plantations of T. Pearson, Esq. Tettenhall, Staffordshire.] P. May—July.

SESLE'RIA. *Involucr.* 2 leaves: *Cal.* 2-valved, with from 1 to 3 florets: *Bloss.* toothed at the end.

* Horses, sheep, and goats eat it. *Chermis graminis* is found upon it. Linn.—In the turf moors below Glastonbury, Somerset, in great abundance. The country people make of the straws of this grass a neat kind of besoms, which they sell to the housewives in the neighbourhood, as a cheap and no despicable substitute for hair brooms. Mr. Swayne.—Flourishes in the neighbourhood of the copper works at Pary's mountain in Anglesea, while almost every other vegetable, even Lichens, are injured or destroyed. Penn. *Wales* ii. 265.

cæru'lea. S.. Straw undivided: spike egg-oblong.

*Dicks. h. s.–Jacq. pl. rar.* 21–*C. B. pr.* 21. 1. *and th.* 158–*Park.* 1152. 6–*Scheuch.* 2. 9. *A. B.*

*Straws* oblique. *Leaves* betwixt sea-green and bluish. *Spike* sometimes white. LINN. *Spike* from ½ to nearly 1 inch. SCHEUCH. *Seeds* hairy. *Calyx valves* ending in awn-like points. HALL. *Bunch* spike-like, egg-oblong. *Florets* on short fruit-stalks, purplish livid, or brownish white. *Involcr.* roundish, embracing the spike-stalk, gnawed, membranaceous, shorter, but thrice as wide as the *calyx*; the lower one at the base of the bunch, the other a little higher up at the base of the florets of the opposite side. *Calyx* containing mostly 2 florets, sometimes just longer, and sometimes just shorter than the florets, edges and keel bearded. *Bloss. valves* equal in length, edges and keel bearded; *outer* with 5 ribs, cloven at the end into 4 teeth, ending in awn-like points, the two middle ones shorter, with the keel running out from between them into a short awn twice as long as the teeth. ST. From 6 to 9 inches high, trailing and then ascending. *Straw* with a single sheath, ending in a short leaf. *Leaves* broad, strap-shaped, with a strong mid-rib. *Spike* lead colour, or greyish, sometimes purplish as in Jacquin.

*Cynosurus cæruleus.* LINN.—*Aira varia.* JACQ. *enum.* who remarks that Linn. has improperly placed it in the genus *Cynosurus*, it having no affinity to that family. ST.

*Blue Moor-grass.* Mountainous pastures in the North; sometimes in marshes. [Crevices of the Lime Rocks at the foot of Ingleborough. ST. Lime rocks, Conzick Scar, Kendal. Mr. GOUGH. Malham Cove, and on most of the Lime-rocks in Craven, Yorkshire. Mr. CALEY.] P. Apr.—June.

PO'A. *Cal.* 2-valved, many flowered: *Spikets* egg-shaped: *Valves* skinny at the edge, rather acute.

(1) *Panicle spreading.*

aquat'ica. P. Panicle spreading: spikets strap-shaped, 6-flowered.

*Curt.* 330–*Fl. dan.* 920–*H. ox.* viii. 6. 25–*Ger.* 7. 2–*C. B.* 40–*Ger.* 6. 2–*C. B. th.* 38–*Ger. em.* 6. 1–*Leers* 5. 5–*Scheuch.* 4. 1–*Mont.* 38.

*Calyx* containing from 5 to 10 florets. *Straw* 6 feet high. LINN. *Straw* from 4 to 6 feet high; upright, 2 edged, smooth. *Leaves* straight, keeled; rough on the edge and the keel. *Sheaths* cylindrical, scored, smooth. HUDS. Leaves broad, channelled. *Panicle* 8 or 10 inches high, and 4 or 5 broad, purplish. *Spikets* egg spear-shaped. CURT.

*Reed Meadow-grass.* Marshes and banks of rivers.
P. July—Aug.*

P. Panicles with subdivided branches: spikets 5-flowered: florets distant, blunt: calyx, valves very unequal. dis'tans.

PLATE XXV.

From 9 to 12 inches high, or more. *Straw* bent at the lower joint; smooth. *Root-leaves* short, stiffish, slender, smooth. *Stem-leaves* sheathing, rough at the edges near the end. *Sheath-scale* short, broad. *Panicle* about 3 inches long, 2 inches wide: *branches* in distant whirls, 4 or 3 in a whirl, greatly expanding; when ripe still more so. *Spikets* 5 or 6 flowered. *Calyx* smooth, 1 valve twice as large as the other. *Bloss.* smooth, skinny at the edge and the point, not woolly at the base, unequal, blunt.

*Aira aquatica distans.* Huds. *Loose-flowered Meadow-grass.* Sandy places near Exmouth. About Northfleet in Kent, and in Yorkshire and Lancashire. P. June. July.

P. Panicle spreading: spikets 5-flowered, smooth: straw cylindrical, upright, Linn. Sheath-scale short and blunt. Curt. praten'sis.

*Gram. pasc.–Curt.–C. B.* 28–*H. ox.* viii. 5. 18–*Stilling.* 6–*Leers* 6. 4–*Scheuch.* 3. 17–*Anders.*

From 1 to 2 feet high. *Panicle* heavy when in seed, not greatly diverging, 2 to 4 inches long, and more than half as broad. *Leaves* much less rough than in P. trivialis, but not always smooth.

*Smooth stalked meadow-grass.* Meadows, dry banks, and even on walls. [Constitutes a considerable part of the herbage on the rich meadows in the flat parts of Somersetshire.]
P. May, June.

Mr. Swayne observes, that in meadows which have been flooded the whole Winter it flourishes so as nearly to exclude every other grass. *Bath Soc.* vol. ii.

Var. 2. *setacea.* Leaves slender, straw smooth.

*H. ox.* viii. 5. 19–*Leers* 6. 3.

*Spikets* 3-flowered, pubescent root-leaves like bristles. Huds. *Spiket* florets 3 or 4, not merely woolly at the base, but likewise along the keel. This seems to be what Mr. Hudson considered as a narrow-leaved var. of the P. trivialis, but the smoothness of the whole plant, and the shortness of the sheath-scale induces me to place it with the P. pratensis. Mr. Curtis has remarked that the sheath-scale in the P. trivialis is always long

* It is an extremely useful grass to sow upon the banks of rivers or brooks. Horses, cows, and sheep are exceedingly fond of it.

and pointed, in the P. pratensis short and blunt. If this hold true universally there cannot be a doubt of this var. belonging to the pratensis. The florets when ripe adhere together by the woolly hairs at the base and on the keel of the bloss. as Linnæus observes to be the case in his P. angustifolia.

Woods and Hedges. [In Hertfordshire. Mr. WOODWARD.] P. June.

alpi'na. P. Panicle spreading, very much branched: spikets 6-flowered, heart-shaped.

*Scheuch. pr.* 3. 4.

Florets from 2 to 5 in each spiket. *Scheuchz.*

Var. 2. *viviparous.* Panicle viviparous.

*Fl. dan.* 807.—*Scheuch. it.* i. 4. 2.—*Scheuch.* 4. 14.

About 7 inches high. Panicle 2 to 3 inches long; only some of the florets viviparous.

On Snowdon. [Crib y Ddeseil, Mr. GRIFFITH.—Malghyrdy, Benteskerny, and on Ben Lawers. Mr. BROWN.] P. June, July.

angustifolia. P. Panicle spreading: spikets 4-flowered, pubescent: straw cylindrical, upright. *Sp. pl.* Root-leaves doubled together, very slender: sheaths smooth, sheath-scale short, lopped. GMEL.

This has been supposed to be a British plant, but Mr. Afzelius assured me he had never seen a specimen of it in England; all that had been shewn to him for it being, like my specimens, var. of the P. pratensis. See P. pratensis, var. 2. *setacea.* Whatever may be the plant of Linnæus, the var. just now referred to is well represented by H. ox. viii. 5. 19. and also by Leers, t. 6. f. 3, and these figures are cited to the Linnæan P. augustifolia, so that probably the plants are not specifically distinct.

bulbo'sa. P. Little spikes egg-shaped: florets smoothish, acute: straw upright, bulbous at bottom. HUDS.

*Vaill.* 17. 8.

*Panicle* branched, the branches angular, roughish. *Little spikes* egg-shaped, acute; with 3, 4, or 5 florets, a little hairy at the base. HUDS. Not the *P. bulbosa* of the Linn. Herbar. which Mr. Afzelius tells me is only the viviparous var. of the *P. alpina.*

Meadows and pastures, near Clapham, Surry. P. May, June.

Var. 2. *viviparous.* Panicle viviparous.

*Barr.* 703. 1. 2–*C. B. th.* 32. 2–*Park.* 1158. 1–*Ger. em.* 3. 1.–*Pet.* ii. *gram. ital.* 4. 9. 11.–*J. B.* ii. 464–*Scheuch.* 4. 13. A. B. C.

Found in Scotland: and sent to me by Mr. MILNE.

P. Panicles spreading horizontally: branches in pairs: spikets mostly 4-flowered: leaves flat: sheaths smooth. an'nua.

*Gram. pasc.*–*Curt.* 1. 2–*Stilling f.* 7–*H. ox.* viii. 5. 21–*Mus. rust.* iv. 2. 8–*Dod.* 560. 1–*Lob. obs.* 9. 1–*Ger. em.* 2. 1–*Park.* 1156. 4, *the upper left hand*–*C. B. th.* 31–*J. B.* ii. 465. 1–*Ger. em.* 3. 2–*Park*, 1156. 4, *lower left hand*–*J. B. ib.* 2. ☼–*Panicle, &c. Leers* 6. 1–*Anders. called C. compressa*–*Branch of the panicle, Scheuch.* 3. 17. E.–*Park.* 1156. *lower right hand.*

Panicle *branches* in the middle often in threes, at the top solitary. CURT. *Spikets* larger than those of the P. pratensis. Mr. DICKENSON. Growing almost every where on walls and gravel walks, as well as in the richer soil of pastures, it varies extremely in size, from 2 to 12 inches or more. *Straw* compressed, smooth. *Leaves* tender, smooth except towards the end. *Panicle* thinly set, nearly 2 inches long, and almost as broad. *Spikets* from 3 to 5 flowered. Florets woolly at the base and on the lower part of the keel. Its smoothness distinguishes it from the *trivialis*, its compressed straw and thinly set panicle from the *pratensis*.

*Suffolk-grass. Annual Meadow-grass.* Pastures, paths, gravel walks, and the borders of fields. All sorts of cattle eat it.

A. April—Sept.

P. Panicle spreading: spikets 3-flowered, woolly at the base: straw upright, rough: sheath-scale tapering to a point. CURT. trivia'lis.

*Gram. pasc.*–*Curt.*–*Park.* 1156. 4. *upper right hand fig.*–*C. B. th.* 30.

*Root* creeping. The whole plant rough. One and ½ or 2 feet high, or more. *Panicle* 6 or 8 inches high and 3 or 4 broad, when fully expanded. *Florets* mostly 3 or 4 in each spiket, generally 3. Has some resemblance to the P. pratensis, but its creeping root, and the great roughness of the straw and leaves, sufficiently distinguish them, though the uncertainty of the number of florets in each spiket should otherwise occasion a doubt.

*Bird-grass*, by which name it is known to the seedsmen. *Fowl-grass, Fold Meadow-grass. Rough-stalked Meadow-grass.* Moist meadows and sides of ditches. P. June, July.

Var. 2. *reptans.* Stems trailing, taking root at the joints: Spikets with 2 or 3 florets.–*Orcheston Long Grass.* Structure

of the spikets the same as in the preceding, and the base of the lower floret equally woolly; but the great length to which it trails on the ground before the flowering stem rises up, gives it a claim to particular notice. Mr. Hudson's *P. trivialis* palustris, has been supposed intended for this grass, but he quotes the spec. ch. of Poa palustris as given by Linnæus in the Spec. Plantar. which, though not well discriminated, can never be the plant in question, which Haller describes as having a calyx with awns, and so it is figured by Morrison. *H. ox.* viii. 6. 27. cited by Linnæus, and also by Hudson.

There is great reason to believe that this is the famous Orcheston grass, which, as Mr. Swayne observed to me, was mentioned by Ray (from Merret) calling it, *Gramen caninum supinum longissimum*; giving as its place of growth, Maddington, 9 miles from Salisbury. Ray adds, that it is 24 feet long; that they fat hogs with it, and says it also grows in some places in Wales. Ray *Syn. Indiculus. Pl. dub.* Mr. Swayne informs me that the part of the meadow in which he found this grass, is in the parish of Maddington, and that Maddington and Orcheston St. Mary are divided only by a small stream.*

* I requested the favour of Mr. Swayne to send me specimens of this celebrated grass, which he was so obliging to do, and also to add the following account of it, which I transcribe with pleasure, as being, I believe, the best account yet given to the public.—"The late worthy Edmund Rack, first Secretary of the Bath Agricultural Society, was sent to Orcheston, (as you read in one of their volumes,) to investigate this wonderful grass. After his return, he shewed me some specimens which he brought back with him, at the same time informing me, that the meadow had been mown before he came there, and that he had picked his specimens from the haymow. These were so imperfect, that it would probably have puzzled a skilful botanist to have determined the species, much less could I pretend to do this. I knew, however, enough to satisfy myself, that it was some species of Agrostis. I had thoughts of visiting the place myself for a long time, but the distance of 40 miles still made me defer it. At length, being on a visit to a friend in Somersetshire, he told me he had been to see the famous Orcheston grass, that he had been so lucky as to be there at the time the meadow was mowing, had been directed to the *real long grass* by the farmer and labourers at work, and had brought back with him living plants and specimens of the flowers. When he produced the latter, you may guess my surprize to find them specimens of Alopecurus pratensis of very large growth. I carried home with me a plant, and set it in my garden. It produced, the spring following, a very fine tuft of the flowering spikes of Alopecurus pratensis. This occurrence at once determined me to visit Orcheston, which I did the year following, the first week in June. When I arrived, the greatest part of the meadow, (or rather meadows, for there are several partitions, though the whole is not more than two or three acres,) indeed all, except one corner, about a quarter of an acre, had been mown, and the grass was then lying in small cocks. The standing part had one uniform appearance, and presented a thick and beautiful assemblage of the flowering panicles of what I take to be *Poa trivialis palustris* of Hudson. A specimen shall be sent for your decision. I examined the grass cocks, and no other flowers of grass appeared, except here and there a few spikes of Alopecurus. The grass which had not been cut, was *lodged* or lying

on

(2) *Panicle slender, compact.*

P. cristata. Panicle spike-like: Calyx husks rather hairy, 2 or 3 (rarely) 4-flowered, longer than the little fruit-stalk: petals awned, awn-pointed.

*E. Bot.* 648–*H. ox.* viii. 4. 7–*Pluk.* 33. 7–*Leers* 5. 6.

*Root* rather bulbous. *Straw* about a foot high, curved at the base, above quite straight, upright smooth. *Leaves* short, slender, only rough towards the end. *Sheaths* smoothish. *Panicle* $2\frac{1}{2}$ inches high, less than $\frac{1}{2}$ inch broad. *Calyx* 2 or 3-flowered, larger valve awn-pointed. *Bloss.* larger valve, tapering into a longer slender point, but not properly awned.

*Crested Meadow-grass. Aira cristata*, Sp. pl. High barren pastures. [On the edge of a Marl Rock, Clarkton Leap, near Worcester. ST.—On Wick Cliffs. Mr. SWAYNE.—Baydales, near Darlington. Mr. ROBSON.—Henllan Village. Mr. GRIFFITH. July.

P. nemoralis. Panicle slender, open when in flower: spikets mostly 2-flowered, pointed, rough: straw feeble.

on the ground, and had put forth roots at the knots (geniculi) and began to be erect only at the last knot or two. I was informed that these meadows are mown twice annually, the first time the latter end of May or beginning of June, and the second time the latter end of July or beginning of August. It will readily occur to you, that no grasses but those that flower early could be in bloom at the first mowing, and that whatever grasses are in blossom at the last mowing must be of the late flowering kinds. Mr. Davies says, in his Wiltshire Report to the Board of Agriculture, that Mr. Sole has determined the Orcheston grass to be the *Agrostis stolonifera*, and probably that grass may be predominant, perhaps the only grass in flower, at the time of the last mowing, but I think it can make no part of the first crop." Mr. SWAYNE.—On the supposition that the grass constituting the great crop of this enviable meadow is at length ascertained, it follows that its great fertility is not merely owing to the kind of grass, for that is not uncommon on the sides of broad wet ditches, and with us begins to flower the first week in June. But it has been observed that the crop in the Orcheston meadow depends much upon the flooding of it in the winter. I will hazard a conjecture, that the advantages in flooding land, depend less upon any supposed quality of the water, than upon its temperature. That when brought over the turf soon after it issues from the spring, as is the case at Orcheston, it enjoys a temperature equal to 48 or 49 degrees of Fahrenheit's thermometer, which it communicates to the surface of the meadow and to the roots of the grass, whilst the temperature of the atmosphere is much lower; so that its action is similar to that of a hot wall upon the branches of fruit-trees. —In Lin. trans. vol. 5, Mr. Maton says he is satisfied that the long grass of Orcheston is not only not a species peculiar to the spot, but that it is composed of most of the species which grow in other meadows," and this certainly appears the most probable solution of the mystery, especially when we consider the peculiarly sheltered situation and rich soil of the valley, and that vegetation in general there assumes a gigantick form.— Mr. Maton asserts, that the space of only two acres and a half *has* yielded as much as ten tons of hay in one year, but that the crops are not now equal to what they were formerly.

*Scheuch. pr.* 2. 2–*Fl. dan.* 749–*Scheuch. it.* ii. 18. 3–*Leers* 5. 3–*Mont.* 12.

Near 2 feet high. *Straw* smooth. *Leaves* very slender, just sensibly rough. *Panicle* from 2 to 6 inches high, greatly varying also in its breadth, and in the number of its branches. *Calyx* generally 2, rarely 3-flowered, the keel serrulated towards the end. *Bloss.* scarcely woolly at the base, but with some very fine soft and short wool-like hairs along the keel. It is not very obvious why Linnæus applies the term *rough* to the spikets, in his Sp. char. Its habit as to strength or feebleness varies very much.

*Poa angustifolia nemoralis.* Huds. *Wood Meadow-grass.* Woods and shady places. [Plentiful in the North. Mr. Woodward. Wick Cliffs. Mr. Swayne.] A. June.

min'ima. P. Calyx 1-flowered.

Agrostis *minima*, which see; but it is truly a Poa. Sr.

(3) *Panicle pointing one way.*

rig'ida. P. Panicle spear-shaped, somewhat branched: branches alternate, pointing one way: fruit-stalk bordered.

*Curt.* 142–*Vaill.* 18. 4–*H. ox.* viii. 2. 9–*Barr.* 49—*Ger.* 4. 3 –*C. B. th.* 32. 1–*Park.* 1157–*Scheuch.* 6. 2 *and* 3–*Mont.* 11.

*Straw* very short and stiff. *Panicle* spear-shaped, inflexible; doubly compound; its *branches* alternate. *Littles spikes* alternate, on inflexible fruit-stalks, which are shorter than the spikes they support; strap-shaped, sharp, about 8 florets in each. *Florets* sharp and skinny at the points. *Calyx* keeled. Linn. From 4 to 8 inches high. *Straw* smooth. *Leaves* slender, rough. *Panicle* $1\frac{1}{2}$ to near 3 inches long, $\frac{1}{4}$ to $\frac{1}{2}$ inch broad, upright, stiff. This may be distinguished from all the other species by the principal or main fruit-stalk being broad on the side opposite to the direction of the branches, convex, and edged with a paler green border.

*Hard Meadow-grass.* Dry sandy or stony places, walls and roofs. [St. Vincent's rocks. Near the mill-pool at Lilleshall, Shropshire.] A. June—Aug.

rupes'tris. P. Panicle spear-shaped, branches alternate: calyx ribbed, 3 or 4-flowered: straw knee-jointed.

Plate XXVI.—*Curt.*–*E. bot.* 532.

About 4 or 5 inches high. *Straw* knee-bent at the upper joint, sheathed up to the panicle. *Leaves* short, broad, ribbed. *Panicle* $1\frac{1}{2}$ inch long, nearly 1 inch broad. *Calyx* 3 or 4 flowered; outer valve 3-ribbed. *Bloss.* valves blunt. It has not the bordered fruit-stalk of the Poa rigida.

*Poa rupestris.*

Gathered on St. Vincent's Rocks near Bristol by Mr. MILNE, who observed to me, that Mr. CURTIS first found it there; just at the entrance into the walk from the Hotwell House.—Sir THOMAS FRANKLAND found this plant growing on the waste ground near the Dock, betwixt Bristol and the Hotwells. Also on the new Pier at Scarborough. It grows prostrate in circular patches. A. June—Aug.

P. Panicle compact, branched: branches in pairs: spikets oblong: florets blunt: leaves sharp, edges rolled in: straw cylindrical, slanting. HUDS. marit'ima.

*Dicks. h. s.–Fl. dan.* 251.

*Root* perennial, creeping. *Straw* from 6 to 12 inches high; smooth. *Leaves* on leaf-stalks, expanding, bare. *Panicle* oblong, upright, the lowermost branches sometimes a little expanding. *Florets* from 3 to 7 or 8; bluntish, smooth. HUDS. *Leaves* rolled in so as to resemble rushes. *Panicle* purplish, but little spreading; composed of narrow, oblong spiculæ, not awned. RAY. Panicle in the fig. of flor. dan. too much expanded. *Bloss.* inner valve very minutely serrulated. Has been supposed to be the Festuca fluitans changed by a maritime situation, but this opinion is not probable, for the outer and larger valve of the blossom in this plant, wants the ribs which are so strongly marked in the Festuca fluitans, the inner valve wants the open cleft at the end, and besides other differences, I have examined the F. fluitans whilst growing in the salt marshes at Lymington, and found it vary but little from that growing in inland places. Mr. Afzelius believes it to be the same as the Festuca *adscendens* of Retz. prodr. fl. Scandinav.

*Sea Meadow-grass.* Sea coast frequent. [Salt marshes Norf. and Yarmouth. Mr. WOODWARD. On the river side between Bristol and the Hotwells. Mr. SWAYNE. Near the canal from Droitwich to the Severn. Mr. BAKER.] P. June, July.

P. Panicle compact: straw slanting, compressed. compres'sa.

*E. Bot.* 365–*Fl. dan.* 742–*Vaill.* 18, 5–*Leers* 5. 4–*Mont.* 10.

*Florets* generally 6 in each calyx. LINN. *Root* somewhat creeping. *Spikets* almost sitting, near together. LEERS. Much larger than those of the P. pratensis. Mr. DICKENSON. About a foot high. *Straw* trailing, then ascending, smooth. *Leaves* nearly smooth. *Panicle* 2 inches long, slender. *Spikets* mostly 3 or 4 flowered. *Bloss.* rarely woolly at the base.

*Creeping Meadow-grass.* Walls, house tops, and other very dry places. P. June.

P. Panicle close: outer petal hairy at the edge: straw lying down. decum'bens.

*Dicks. h. s.–E. bot.* 792–*Fl. dan.* 162–*Pluk.* 34. 1–*H. ox.* viii. 1. 6–*Mont.* 2. 1–*Leers* 7. 5–*Scheuch.* 3. 16. A. B. C.

*Cal.* 3-flowered, nearly allied to Melica. LINN. *Panicle* not branched, about 1¼ inch long; *Spikets* 5 or 6. *Cal.* as long as the spiket, 3 to 5-flowered, awnless. *Bloss.* awnless, hairy at the edge, and sometimes at the base: outer valve larger, with 3 teeth at the end.

*Festuca decumbens.* Sp. Pl. Barren moistish pastures. P. Aug.

glau'ca. P. Panicle open: spikets mostly 3-flowered: florets tapering to a point, woolly at the base: leaves awl-shaped.

*l. dan.* 964.

May be distinguished from other species at a distance, by its glaucous colour. VAHL. About 10 inches high. *Stem* smoothish. Leaves rough at the edges. Panicle 2 inches long, hardly 1 broad, few-flowered, but little branched, 3 or 4 florets in each spiket.

*Poa pratensis.* β alpina. HUDS. not P. alpina of Linnæus, as I was assured by Mr. Afzelius. Mountains in the North of England. HUDS. [Crib y Ddeseil. Mr. GRIFFITH.—On the rocks of Ben Lawers at great heights. Mr. BROWN.]

P. June, July.

BRI'ZA. *Cal.* 2-valved, many-flowered: *Spiket* 2-rowed; valves heart-shaped, blunt; the inner minute.

mi'nor. B. Spikets triangular: calyx longer than the florets.

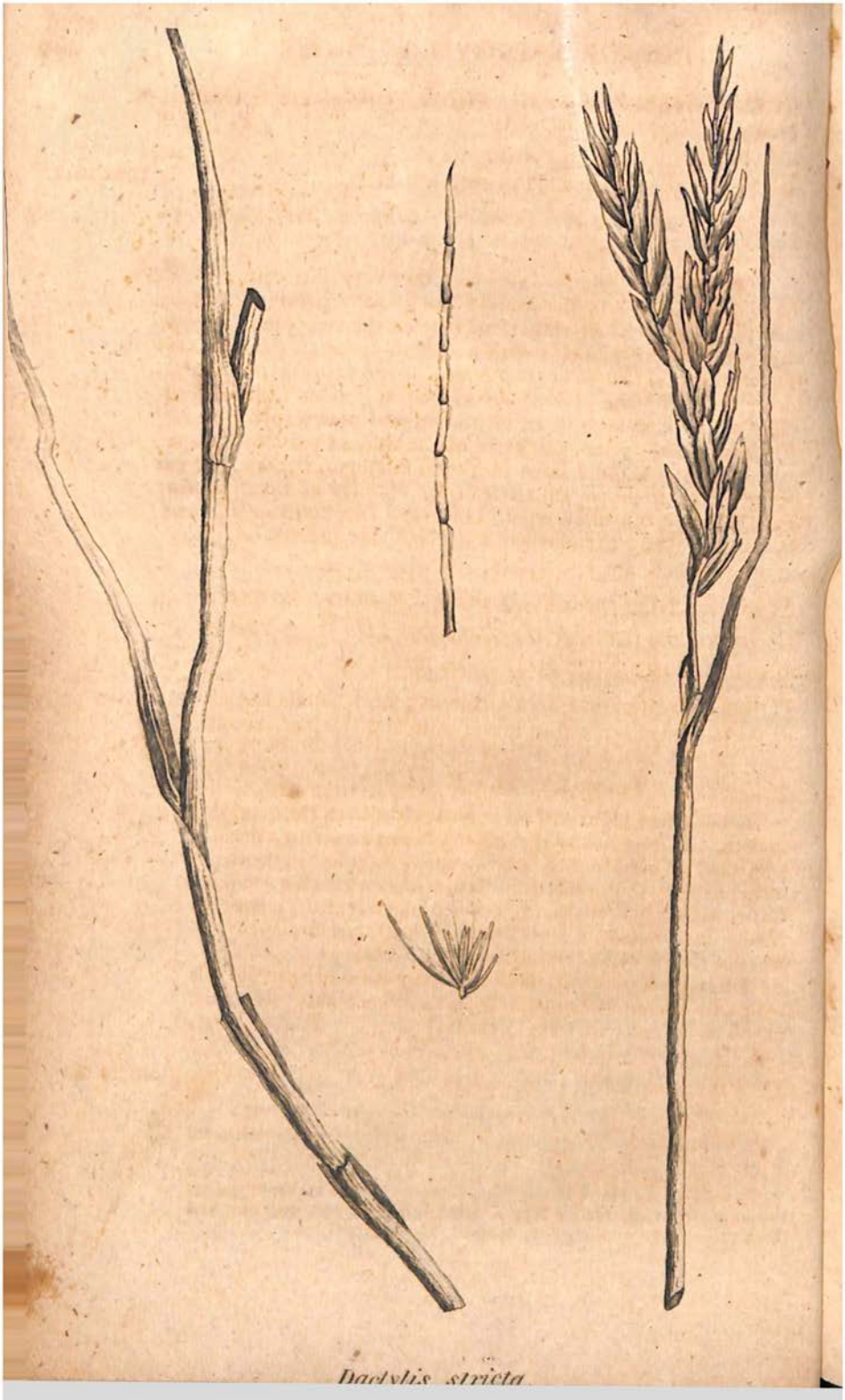
*Dicks. h. s.–Kniph.* 8–*H. ox.* viii. 6. 47–*Barr.* 16–*Park.* 1165. 5.

*Small Quake grass.* In pastures. [Plentifully near Penzance. June.] A. Linn. P. Huds. July.

me'dia. B. Spikets egg-shaped: calyx shorter than the florets.

*Gram. pasc.–Dicks. h. s.–Fl. dan.* 258–*E. bot.* 340–*H. ox.* viii. 6. 45–*Trag.* 670–*Barr.* 15. 2–*Ger. em.* 86. 2–*C. B.* 22. 1–*Park.* 1165. 2. 6–*J. B.* ii. 469. 2. 6–*Leers* 7. 2–*Scheuch.* 4. 8–*Mont.* 39–*Dwarf specimens, C. B. th.* 25. 1–*H. ox.* viii. 6. 46–*J. B.* ii. 469. 2–*Scheuch.* 4. 9.

Should any difficulty remain in determining these two species from the Linnæan character, it may be observed, that in the *B. media* the inner valve of the blossom is finely fringed at the edges, but entire at the end, whilst in the *B. minor* it is not fringed at the edges, but cloven at the end.



*Dactylis stricta*

*Cow-quakes. Ladies-hair. Middle Quake-grass.* Fields and pastures. P. July.*

B. Spikets egg-shaped, forming a bunch. max'ima.

*Kniph.* 8–*Jacq. obs.* 60–*Ger. em.* 87. 3–*Barr. ic.* 15. 1–*Scheuch.* 4. 7.

The number of florets in each spiket very uncertain, but the number of spikets in the panicle being rarely greater than from 5 to 7, sufficiently distinguishes it from the two preceding species, which bear panicles with numerous spikets. Jacquin very justly observes, that it bears a bunch of spikets rather than a panicle, and that the spikets are rather egg than heart-shaped. They are each about $\frac{1}{4}$ of an inch long, and near $\frac{1}{2}$ inch broad.

*Great Quake-grass.* A native of the warmer parts of Europe; frequent in Italy, and I have seen it in Portugal, but lately it has been observed to propagate itself in the vicinity of London, near Newington Butts.—This spot, however, Mr. Symons informs me, was accurately examined in 1797 without success. A. July.

DAC'TYLIS. *Cal.* 2-valved, many-flowered; valves broader on one side: *Bloss.* 2-valves, inclosing the seed: *Nectaries* 2.

D. Spikes terminating, sometimes in pairs: florets not expanding: straw and leaves stiff and straight. HORT. KEW. stric'ta.

PLATE XXVII.—*E. bot.* 380.

About a foot high. *Straw* curved at the base, then upright, smooth, sheathed up to the spike. *Leaves* sheathing, smooth, stiff, taper, 3 or 4 on each straw. *Spikes* 1, 2, or 3, smooth; 3 inches long, less than half inch broad. *Florets* pointing one way. *Cal.* 1-flowered, keel-shaped, doubled together, hairy, unequal, sitting in a hollow of the spike-stalk. *D. cynosuroides*, Huds. &c. not the D. cynos. of Linnæus.

*Smooth Cocksfoot.* Marshes in Essex, and other parts of the sea-coast. [Near Aldborough, Suffolk. WOODWARD. Near the mouth of Feversham Creek. VELLEY.] P. Aug. Sept.

D. Panicle crowded, pointing one way. glomera'ta.

* Cows, sheep, and goats eat it. If a seed is carefully dissected in a microscope, with a fine lancet the young plant will be found with its roots and leaves pretty perfectly formed.—A grass of no value as a pasture grass, but only as it grows on such wet parts as better grasses would not grow on, such places should be drained and manured, and then the herbage would soon be changed. Mr. SWAYNE.

*Gram. pasc.–Schreb.* 8. 2–*E. bot.* 335–*Fl. dan.* 743–*H. ox.* viii. 6. 38–*Bauh. pr.* 9. 1, *and th.* 45. 1–*Mus. rust.* v. 1. 5–*Park.* 1182. 5–*J. B.* ii. 467. 1–*Barr.* 26. 1. 2–*Leers* 3. 3–*Scheuch.* 6. 15.

*Florets* in rainy seasons sometimes viviparous. Mr. Woodw. *Stem* compressed, and aided by the sheaths of the leaves, appears to be 2-edged, especially in the stronger plants.

*Rough Cocksfoot.* Very common. P. June—Aug.*

CYNOSU'RUS. *Cal.* 2-valved, many-flowered; equal: *Bloss.* 2-valved, 1 valve concave, longer: *Nect.* 2-leaved.

crista'tus. C. Floral-leaves with winged clefts.

*Gram. pasc.–Schreb.* 8. 1–*E. bot.* 316–*Leers* 7. 4–*Gisek.* 54–*Fl. dan.* 238–*Barr.* 27. 2–*Mus. rust.* iv. 2. 2–*H. ox.* viii. 4. *row* 3. 6–*C. B. th.* 43–*Park.* 1160. 3–*Anderson–Stillingf.* 11–*J. B.* ii. 468. 3.

*Floral-leaves* deeply divided into awl-shaped segments. *Husks* generally containing 3 florets. *Smaller valve* of the blossom ending in 2 points; *larger valve* ending in a short awn. *Florets* all facing one way. *Seeds* rough, with very strong, short bristles.

*Crested Dogstail.*

Var. 2. Spike 4-cornered. Ray Syn. 399.

Pastures, common. P. June, July.†

Var. 3. Spike viviparous. Observed by Mr. Brown in the King's Park, Edinburgh, Nov. 1791; and by Sir Thomas Frankland in a pasture in Yorkshire: the plant being remarkably strong, Sir Thomas F. is led to suppose the above effect may be occasioned by unusual vigour.

echina'tus. C. Floral-leaves winged, segments awned.

* Horses, sheep, and goats eat it; cows refuse it. Thrives in the shade, and under the drippings of large trees. See a farther account of it in *Mus. rust.* v. p. 45. and lv. p. 186. *Orchard Grass.* A grass rather coarse but very productive, especially in leaves, and is not disliked by cattle, unless when growing on rank soils. Mr. Swayne.

† The leaves of this grass are of the shortest growth of any of the pasture grasses; but they grow very close together in great abundance, and are very palatable to cattle, particularly to sheep. It is, therefore, very proper to be sown in fields intended for sheep-walks, but by no means as a meadow or hay-grass. The straws of this grass are remarkably hard and tough, and as they shoot up at a season when the *leaves* of all the grasses are very plentiful, they are not cropped by cattle, but are suffered for the most part to stand and perfect their seeds, which seeds afford a scanty subsistance to pigeons at a season when their food is very scarce. Mr. Swayne.

*C. B. th.* 59–*Park.* 1168. 6–*H. ox.* viii. 4. 13–*Barr.* 123. 2 –*J. B.* ii. 474. 1–*Scheuch.* 2. 8. B. D.–*Mont.* 24.

*Bunch* congregated, pointing one way. *Floral-leaves* only on the outside of the flowers, alternately winged, the rays ending in awns; 1 floret in each. *Husk* 2-valved, 2-flowered, membranaceous, very fine at the point. *Bloss.* 2 valves, with an awn upon the outer point. *Style* cloven. LINN.

The distinction of these 2 species may be assisted by remarking, that in the former the florets form a compact strap-shaped spike, from 2 to 4 inches long, and from $\frac{1}{4}$ to $\frac{1}{2}$ inch broad, but in this they form a spear-shaped bunch, whose breadth at the base is equal to about half its length.

*Rough Dogstail.* Sandy soil in Jersey and near Sandwich.

C. Floral-leaves entire: spike nearly egg-shaped. *See* cæru'leus. Sesleria *cærulea.*

FESTU'CA. *Cal.* 2-valved: *Spikets* oblong, roundish: *Husks* tapering to a point, or terminating in an awn.

(1) *Panicles pointing one way: awns longer than the blossom.*

F. Spikets upright; smooth: calyx valves, 1 entire, the other tapering to an awn-like point. bromoi'des.

*Pluk.* 33. 10–*Scheuch.* 6. 10, *and* 14.

Differs from the F. myurus in its panicle being spike-like, and the valves of the blossom not being fringed. LINN. *Panicle* broader and shorter than in the *F. myurus*; the spikets are also larger and broader. *Straw* with 3 or 4 joints. RAY. Few plants vary more in size than this does: in very dry sand on the sea shore it is sometimes only 2 inches high, as represented in the fig. of Plukenet: in more fertile soil 16 inches or more. *Straw* and *leaves* smooth. *Panicle* loose, about 3 inches long. *Spikets* from 5 to 10-flowered, but commonly 6. *Calyx* smaller valve hardly half the length of the other. *Bloss.* valves smooth. *Awns* twice the length of the blossom, or more.

*Barren Fescue.* On walls, and dry sandy places. [On the top of Brandon Hill, near Bristol. Mr. SWAYNE.—Dry pastures near the Mass-house, Edgbaston.] A. May, June.

F. Panicle spike-like, drooping: calyx smaller valve very minute: florets rough, awns very long. myu'rus.

*Dicks. h. s.–Leers* 3. 5–*Barr.* 99. 1–*H. ox.* viii. 7. 13– *Scheuch.* 6. 12–*Ger. em.* 29. *2–*Park.* 1162. 8.

About 16 inches high. *Panicle* 5 or 6 inches long, slightly curved. *Spikets* from 4, to 8 or 10 flowered. *Cal.* very unequal, the smaller valve hardly $\frac{1}{3}$ the size of the larger. *Bloss.* valves rough. *Awn* full twice the length of the blossom. *Stamen* only one.

*Wall Fescue. Capons-tail Grass.* Walls and dry barren places. [On the road side leading from Blymhill to Shrewsbury. Mr. DICKENSON.] A. May, June.

(2) *Panicle pointing one way; awns shorter than the blossom.*

ovi'na. F. Panicle compact, awned: straw four-cornered, almost naked: leaves bristle-shaped.

*E. bot.* 585–*Mus. rust.* iv. 2. 4–*Leers* 8. 3 *and* 4–*Stillingf.* 8–*Scheuch.* 6. 6–*Mont.* 5.

From 5 to 8 inches high, but twice as tall when cultivated. *Panicle* $1\frac{1}{2}$ to 2 inches long, mostly pointing one way. *Spikets* from 3 to 5-flowered, but generally 4, and an imperfect rudiment of a fifth. *Cal.* one valve only $\frac{1}{4}$ the length of the other. *Awns* of various lengths, but generally about $\frac{1}{6}$ the length of the blossom.

Var. 2. *awned. Leers* 8. 3–*Scheuch.* 6. 8–*Mont.* 5–*Stillingf.* 8.

Var. 3. *Awnless.* See *F. tenuifolia.*

Var. 4. *Viviparous. Scheuch. pr.* 1. 2–*Ray Syn.* 22. 1. *Barr.* 272.

Mr. GOUGH informs me that vegetating germs of the viviparous variety, brought from High-street, the highest hill in Westmoreland, and planted in his garden in the year 1790, still continue viviparous, and were so even in the dry month of July 1794. He says also that he has found plants in the valley with vegetating germs on them, and from these circumstances he concludes that there is either a constitutional difference between the F. ovina and the F. vivipara, or else that the plant is uniformly viviparous, which he proposes as a subject of future enquiry. Linnæus also calls it a permanent variety, and observes that it retains its character when transplanted into a garden. Dr. SIBTHORPE considers the awnless var. also as a distinct species, and in his *Fl. oxon.* characterizes it thus. *F. tenuifolia.* Panicle pointing one way, awnless: leaves hair-like, longish, rather upright: straw naked.

*Pluk.* 34. 2.

*Gramen capillaceum, locustellis pennatis, non aristatis.* Ray *Syn.* 410. Bullington Green. Dry gravelly soil, and on stone walls. [3. On the summits of Skiddaw and Ingleborough. WOODW.—1. Wickcliffs. Mr. SWAYNE.—4. Crib y Ddeseil. Mr. GRIFFITH. P. June.*

* It flourishes best in a dry sandy soil: cows, horses, and goats will eat it, but it is the favourite food of sheep: they prefer it before all other grasses,

F. Panicle rough: spikets 6-flowered, awned: floret at the end awnless: straw semi-cylindrical. rubra.

*Scheuch.* 6. 9–*Stillingf.* 9–*Leers* 8. 1, *a larger variety.*

Distinguished from the *F. ovina* by its size, its red colour when ripe, its broader leaves, and its nearly semi-cylindrical straw. LINN. It differs from the *F. duriuscula* in its broader and flat stem-leaves, in its spikets being somewhat larger, and its panicle less compressed. The bristle-shaped root-leaves, and the very short awns distinguish it from the *F. myurus.* POLLICH. *Leaves* on the upper side covered with a soft woolliness barely perceptible to the naked eye. *Straw* smooth, but within the panicle rough: green, but when the seeds are ripe, red. LINN. Taller than the *F. duriuscula*, and distinguished from it by its broader leaves. Mr. DICKENSON. *Panicle* of a reddish purple colour as it approaches to ripeness, and this colour sometimes extends to the leaves and the straw. About 18 inches high. *Spikets* 5-flowered. *Cal.* one valve but $\frac{1}{4}$ the length of the other. *Awns* $\frac{1}{4}$ or $\frac{1}{3}$ the length of the blossom.

*Purple Fescue.* High heaths, and dry barren pastures. [Gathered in N. Wales, by Mr. DICKENSON.—About Stoney Cross in the New Forest, Hants, plentiful.] P. June.

F. Panicle oblong: spikets oblong, smooth: leaves bristle-shaped. duriuscula.

*Gram. pasc.–E. bot.* 470–*Ray* 19. 1–*Leers* 8. 2–*Fl. dan.* 848 –*Lob. obs.* 9. 2.

Resembles the *F. dumetorum* in its thread-shaped channelled root leaves, and its flat grass-like stem-leaves, but differs in having its husks smooth. LINNÆUS. *Stem* and *root-leaves* bristle-shaped. *Little spikes* small, egg-shaped; with very short awns. *Panicle* more contracted, distinguishes it from the *F. rubra.* Its cylindrical *straw*, and the constant presence of the very short *awns*, from the *F. ovina.* POLLICH. It varies in its *root-leaves* being bristle-shaped and thread-shaped, and rough: in its *stem-leaves* being flat and channelled, and bare: in its *little spikes* containing from 6 to 10 florets, and pubescent. HUDS. From 8 to 12 inches high. *Panicle* from 2 to 3 inches long. *Calyx* always smooth; in dry situations 5, in richer soil 6 or 7-flowered, besides a barren or imperfect floret at the end; one valve of

grasses, and are said soonest to grow fat upon it; for though small, it is succulent. The Tartars who lead a wandering life, tending their flocks and herds, always choose those spots where this grass abounds. LINN. Such may be its just character in the uncultivated wilds of nature, and as it prefers a dry soil, its growth is an indubitable indication of the salubrity of such places for flocks of sheep, but in a more rich and cultivated country Mr. SWAYNE tells me it is of little value as a pasture grass, being extremely diminutive, nor will it remain long in the ground if sown, but will soon give place to more luxuriant grasses.

the calyx but $\frac{3}{4}$ the length of the other. *Bloss.* inner valve always fringed at the edge; outer valve sometimes so, and sometimes not quite smooth on the back, as in the fig. of Fl. danica. *Awn* from $\frac{1}{6}$ to $\frac{1}{4}$ the length of the blossom. The panicle often assumes a purplish blue colour, and in that state it seems to have been mistaken for the F. amethystina.

*Hard Fescue.* Dry places as well as low and flat meadows. [Walls of Dudley Castle. Flat pastures in Somersetshire about Highbridge.] P. June.*

dumeto'rum. F. Panicle spike-like, pubescent; leaves thread-shaped.

Var. 1. Spikets straddling, some pointing upwards, some slanting, some nearly horizontally.

*Fl. dan.* 700.

Root-leaves thread-shaped, 4 or 5 inches long. *Panicle* brown-green, 2 inches long, $\frac{1}{2}$ inch broad, appearing distorted from the different direction of the spikets. *Cal.* 4 to 6-flowered, the terminating floret imperfect. *Awns* 1-10th the length of the blossom.

[Restlars meadow, Blymhill, Shropsh. Mr. DICKENSON.]

Var. 2. Panicle regular, greyish green.

*H. ox.* viii. 2. *fig. the last; (but the pubescence not expressed.)*

*Straw* 12 or 18 inches high, thread-shaped, cylindrical, with 2 swollen joints. *Root-leaves* 1 foot long, roundish, scarcely edged. *Stem-leaves* shorter, channelled. *Panicle* small, spike-like. *Little spikes* 10 or 12, oblong, pubescent, greyish; the upper ones sitting, solitary; the lower ones in pairs, on fruit-stalks. *Husks* terminating in a minute awn. Bulbs often grow within the sheath of the straw. Very nearly allied to the *F. duriuscula.* LINN. Leaves slender. Panicle 5 inches long, $1\frac{1}{2}$ inch broad. *Cal.* 8 or 9 flowered, the terminating floret imperfect. *Bloss.* outer valve very hairy. *Awns* $\frac{1}{4}$ the length of the blossom. The Panicle not at all like a spike, is much larger than the preceding and has nothing of its zigzag appearance. It is possible they may prove distinct species.

*Festuca duriuscula dumetorum.* HUDS. *Pubescent Fescue.* Woods and hedges. P. June, July.

gla'bra. F. Panicle branched, upright, compact: spikets awl-shaped, 3-flowered, awned, smooth. LIGHTF. *(Nearly allied to the F. cambrica, if not the same.* HUDS.)

See also a description in Lightf. Fl. Scot. p. 1085.
Found at Ardbigland in Galloway, by Mr. Lightfoot. P. July.

* A very excellent grass for the agriculturists, as springing very early, being productive and grateful to all kinds of cattle, and is found in most good meadows and pastures. Mr. SWAYNE.

F. Panicle oblong, upright, branched: spikets awned, smooth: leaves flat, naked. HUDS. cam'brica.

*Root* fibrous. *Straw* near a foot high: slanting, cylindrical, leafy, smooth; with 2 or 3 joints. *Root-leaves* nearly upright: sword-shaped, sharpish, channelled. *Stem-leaves* 2 or 3; on leaf-stalks; sharpish, flat, fibrous. *Leaf-stalk* cylindrical, sheathing, scored, hairy. *Stipulæ* membranaceous, sheathing, blunt. *Panicle* rather compact, branched at the bottom. *Spikets* on fruitstalks, about 6 florets in each, egg-shaped. *Awns* short. *Fruitstalks* nearly as long as the spikets. Nearly allied to the *F. duriuscula.* HUDS. When cultivated the spikets consist of 8 or 10 florets, and the awns are half the length of the blossom. *Calyx* smaller valve but $\frac{1}{3}$ the length of the other.

*Welch Fescue.* On the highest hills about Llanberris, plentifully. [On Crib y Ddeseil. Mr. GRIFFITH.] P. July, Aug.

(3) *Panicle mostly pointing one way; awnless.*

F. Leaves like bristles, rather long, upright: straw naked. (Fl. ox.) Spikets rough. tenuifo'lia.

*Leers* 8. 4. ⊬–*Pluk.* 34. 2–*Monti* 4–*Anderson–Scheuch.* 6. 6.

About 7 inches high. *Panicle* near 2 inches long. *Spikets* 4-flowered, roughish. *Bloss.* outer valve broader and shorter than in any other of our species. *Cal.* unequal, the smaller valve about $\frac{3}{4}$ the length of the other. Stem and leaves slender smooth.

*Gramen capillaceum locustellis pennatis, non aristatis.* Ray Syn. 410. This has been considered as an awnless variety of the F. ovina, and it may be nothing more, but I think Dr. *Sibthorpe* has done well to keep it separate at present, whatever may be its place in consequence of further observations concerning it; but the want of awns, and the roughness of the spikets must, if permanent, be allowed a sufficient distinction. In the roughness of the spikets it resembles the F. dumetorum, but that has awns, and is full twice the size of the present plant. Dry pastures. Bullington Green, Oxfordsh. SIBTHORPE. [Sent to me by J. WYNNE GRIFFITH, Esq. from Crib y Ddeseil, Denbighsh.] P. June.

F. Panicle upright: spikets scarcely awned; the outer ones cylindrical. *Fl. Suec.* ela'tior.

Var. 1. *Bog.* Panicle doubly compound, at first drooping, nearly upright when in flower: spikets egg-spear-shaped, acute, awnless; leaves flat. CURT.

*Curt.–Schreb.* 2–*Leers* 8. 6–*H. ox.* viii. 2. 15–*Scheuch.* 5. 18.

*Straw* smooth. *Leaves* flat, broadish, very rough. *Panicle* loose, but mostly pointing one way; about 7 inches long. *Cal.* very unequal, from 5 to 8 florets in each. *Bloss. inner* valve not fringed at the edge; *outer* membranaceous at the edge. After flowering, this thin membranaceous part turns brown and shrivels, so that the midrib then naked and projecting resembles an awn.

*Tall fescue. Festuca elatior.* β Sp. Pl. Reich. Boggy meadows and sides of wet ditches. P. June, July.*

Mr. CURTIS tells us that in a cultivated state it is nearly incapable of producing perfect seeds. On considering this fact, together with what is recorded of the F. loliacea, it is probable that this plant is a similar hybrid production; the F. pratensis of our botanists being the original stock, and as Mr. AFZELIUS observed the real F. elatior of the Fl. Suecica.

Var. 2. *pratensis.* Panicle slanting, pointing one way: spikets awnless, nearly strap-shaped: leaves flat. CURT.

*Gram. pasc.–Curt.–Mus. rust.* iv. 2–*H. ox.* viii. 2. 2–*Scheuch.* 4. 6–*Park.* 1146. 8.

*Cal.* larger valve 3-ribbed, smaller 1-ribbed. *Bloss.* smooth, slightly ribbed. In F. fluitans the calyx valves are not ribbed, whilst those of the blossom are very strongly so; just the reverse is the case with the F. pratensis, so that they may at all times readily be distinguished; but the differences betwixt the F. pratensis, and the F. elatior are less obvious. Mr. Curtis observes that the panicle in the F. elatior has twice the number of spikets, that its branches are more compound, that it droops more at first, that it is more equally spread; that the whole plant is twice as high, and the leaves twice as broad; but he thinks the spikets afford one of the most obvious distinctions, in the pratensis they are somewhat flat, strap-shaped, and blunt; in the elatior less flatted, more ovate, and pointed.

*Festuca Fluitans* pratensis. HUDS. Festuca pratensis. CURT. Festuca elatior α. Sp. Pl. F. elatior. Fl. Suec. Rich wet meadows. P. June.

fluitans. F. Panicle branched, upright: spikets nearly sitting, cylindrical, awnless.

Var. 1. fresh water.–*Curt.–Leers* 8. 5–*Schreb.* 3. *f.* 2–*Fl. dan.* 237–*Stillingf.* 10–*H. ox.* viii. 3. 16–*Ger. em.* 14. 1–*J. B.* ii. 490–*Mus. rust.* iv. 1. 6–*C. B. th.* 41–*Park.* 1275. 8–*Scheuch.* 4. 5–*Mont.* 35.

*Straw* striking root at the joints. *Leaves* floating flat on the water. *Panicle* very long, issuing from a long 2-edged

* It makes an excellent pasture, but requires a rich soil. LINN. Horses, cows, sheep, and goats eat it.

sheath. *Spikets* cylindrical but flatted, mostly 10-flowered. *Bloss.* awnless. *Valves* with strong ribs, terminating in an equal number of points, these points connected together by means of a transparent membrane.

*Flote Fescue.* Wet ditches and ponds, common. P. June—Sept.

Mr. Curtis observes, that growing on the land it becomes smaller in every respect, and that the panicle is frequently changed to a simple spike.*

Var. 2. Salt-marsh. Leaves blunt, broader, shorter, glaucous: calyx 6 or 8-flowered.

In the Salt Marshes at Lymington. June.

(4) *Flowers in spikes.*

F. Spiked: spikets alternate, sitting, compressed, awnless. HUDS. loliacea.

*Curt.–Park.* 1146. 7–*H. ox.* viii. 2. 2, *the single spike.*

*Spike* 8 or 10 inches long; sometimes a little branched at the bottom. *Spikets* sitting nearly upright, containing from 9 to 14 florets. *Calyx* valves ribbed similar to those in F. elatior; inner valve sometimes wanting. *Bloss.* not ribbed like that in the F. fluitans.

Moist Meadows.

Var. 2. Spike branched at the bottom, spikets 6 or 8-flowered. When this is the case the calyx has always 2 valves, the deficiency of the inner valve noticed above, is therefore probably occasioned by the spiket growing so upright and so pressed to the spike stalk as to destroy it whilst yet young and tender.†

* The seeds are small, but very sweet and nourishing. They are collected in several parts of Germany and Poland, under the name of *Manna Seeds*, and are esteemed a delicacy in soups and gruels, upon account of their nutritious quality, and grateful flavour. When ground to meal, they make bread very little inferior to that in common use from wheat. The bran separated in preparing the meal, is given to horses that have the worms; but they must be kept from water for some hours afterwards. Geese are very fond of the seeds, and well know where to look for them. The plant affords nourishment to the *Phalæna Festucæ*. Horses and swine will run risks to get at it.

† Neither of these varieties produce perfect seeds, which has been noticed by Mr. CURTIS and Mr. SWAYNE, but to the latter I am indebted for the following curious observations respecting it, as well as for very fine specimens of the plants. Mr. Swayne calls it, F. *hybrida*, and a more proper name could hardly be desired, but Mr. Hudson's name having been admitted, and being also unobjectionable, I thought not right to change it.

" FESTUCA *hybrida*. Not knowing what specific appellation has been fixed on by Botanists for this Fescue, I have called it *hybrida*, from its constant

decum'bens. F. Panicle upright: spikets nearly egg-shaped, awnless: calyx larger than the florets: straw lying down. *See* POA *decumbens*.

pinna'ta. F. Spikets sitting: straw undivided: awns shorter than the blossoms. POLLICH.

*Barr.* 25–*Pet.* ii. *gram. ital.* 3. 1–*Wieg.* 1. 10–*C. B. pr.* 18. 1. *and th.* 133–*Mont.* 16–*Scheuch.* 1. 7. *H.*

*Plant* smooth, yellowish green. *Lower leaves* now and then somewhat hairy. *Florets* from 6 ro 12. HUDS. *Spike* 4 or 5 inches long: *Spikets* 8 or 10. *Calyx* 8, 10, or 12-flowered. *Bloss.* outer valve with 5 or 7 strong ribs, ending in an awn, a little hairy at the edge; *inner* doubled down at the edge, with a rib along each side fringed with hairs. *Awn* hardly ½ the length of the blossom.

*Festuca pinnata.* HUDS.—*Bromus pinnatus.* LINN. *Spiked Fescue.* Chalky soils. Dry hilly woodlands. Near Nunnington, Yorkshire. Teesdale. P. July.

sylvat'ica. F. Spikets sitting: straw undivided; awns as long as the blossom. POLLICH.

*Leers* 10. 3–*Wieg.* 1. 11–*Fl. dan.* 164–*Bar.* 83. 2–*Pet.* ii. *gram. ital.* 3–*H. ox.* viii. 6. *row.* 3. 4, *on the left hand.*

*Leaves* flat, fringed with long white hairs. Mr. GOUGH. *Straw* slender, joints woolly. *Spike-stalk* slender, weak, often drooping. WIGEL. It has the habit of a *Bromus*, the artificial characters of a *Triticum*, (see *Tritic. canin.*) but in its structure it is truly a *Festuca*. ST. The straight hairs on the leaves dis-

constant *infertility*; supposing that to be the most certain criterion of an hybrid plant; and from its resemblance both to F. *elatior* var. pratensis, and to Lolium *perenne*, I impute its origin to an intercourse between these two plants. It should seem to be the Festuca *loliacia* of Hudson, but that I am confident it never originated from the seeds of *F. fluitans*. The valves of the calyx are very unequal, the interior one being very small, and in some specimens which I have examined, scarcely discernible, so that it appears to be nearly allied to Lolium. Admiring the appearance of this grass when it first occurred to me, and thinking it likely to become a good grass for cultivation, I transplanted some roots into my garden. The same season I fenced round with hurdles a considerable patch of it, which I found growing in a close in my own occupation, with a view to save the seed. But when I came to gather it, I was much disappointed, not finding a single seed in any of the spikes. Supposing this might have been owing to accident, I increased what I had in my garden till it occupied a plat of six feet square. It grew well and produced a full crop of flowering spikes. The stamens were apparently perfect, and shed a large quantity of pollen, and the pistils were protruded and expanded, as if in a state fit to receive impregnation, but not a single seed was formed. This has been its annual process for a number of years." Mr. SWAYNE.

appear by cultivation, but the wool-like hairs continue on the stem. *Spikes*, *Calyx* and *Bloss.* similar to the F. pinnata, but more hairy, and the awns long as or longer than the blossom.

*Fest. pinnata* β. Huds. *Wood Fescue.* [Woods and hedges, Worcest. ST. Among the Limestone rubbish at the bottom of Scars in Westmoreland. Mr. GOUGH.] P. July.

## BRO'MUS. *Calyx* 2-valved; *spikets* oblong, cylindrical, 2-rowed: *awn* beneath the point.

B. Panicle expanding; spikets egg-shaped awns straight. polymorphus.

Var. 1. *mollis.* Panicle rather upright: leaves very soft and woolly: awn about the length of the blossom.

*Gram. pasc.*–*Schreb.* 6. 1. 2–*Curt.* 1. 3–*Leers.* 11. 1–*Scheuch.* 5. 12–*H. ox.* viii. 7. 18–*Weig.* 1. 4–*Barr.* 83. 1.

We have 2 sorts of this soft and hairy Bromus, in the one the panicle branches are downy, supporting 1 or 2, but rarely 3 spikets, the spikets have each 10 or 12 florets; the calyx larger valve has a short awn, and both the calyx and blossom are hairy and strongly ribbed.

In the other, the panicle branches are rough, not downy, supporting but 1, rarely 2 spikets, the spikets have each 6 or 8 florets, the calyx larger valve is scarcely awned, the calyx is ribbed and hairy, but the blossom smooth. This is the kind expressed by most of the figures.

The former is mostly found growing in cornfields, though sometimes in mowing grass; the latter in meadows, pastures, hedge banks, and even on walls. May, June.*

*Soft Brome-grass. Lob-grass. Oat-grass.*

Var. 2. *secalinus.* Panicle expanding, husks naked, seeds distinct, awns shorter than the blossom, not quite straight.

*Leers* 11. 2–*H. ox.* viii. 7. 16–*Scheuch.* 5. 9–*Weig.* 1. 2–*C. B. th.* 143.

*Leaves* slightly hairy, and roughish. *Panicle* branches rough, not hairy, supporting 1 spiket. *Spiket* 6 to 10-flowered. *Calyx* ribbed, scarcely awned. *Bloss.* very strong and woody, not hairy, not distinctly ribbed. *Awn* rather shorter than the blossom.

*Field Brome-grass.* Cornfields. [On the sea coast at Ride in the Isle of Wight.] A. May, June.

* Its merit or demerit in an agricultural view, does not seem sufficiently ascertained. Mr. SWAYNE says it is disliked by farmers as being in cornfields a troublesome weed, and in pastures and mowing grounds of little value, since it has generally shed its seed by the time of mowing, and produces very few root-leaves.

Var. 3. *hordeaceus.* Panicle compact, upright.

*Panicle* pointing one way. *Branches* rough, 1 spiket on each. *Spiket* 6-flowered. *Cal.* ribbed, awnless. *Bloss.* not ribbed, smooth. *Awn* nearly as long as the blossom, not quite straight.

Dry places: sometimes in meadows. A. May, June.

Var. 4. *smooth-husked.* Lower leaves somewhat hairy, panicle smoothish.

*H. ox.* viii. 7. 19.

*Panicle* branches rough, supporting 1 or 2 spikets. *Spikets* with 7 to 9 florets. *Calyx* ribbed, awnless. *Bloss.* ribbed. *Awn* the length of the blossom, not quite straight.

The above plants are arranged under the trivial name polymorphus, given to them by SCOPOLI and HUDSON, but perhaps further enquiries may lead to a better disposition of them, though Mr. AFZELIUS assures me that the Bromus *secalinus*, *β hordeaceus*, and *racemosus* are the same plant in the Linnæan Herbarium, and that they are all varieties of the Bromus *mollis*.

sqarro'sus. B. Panicle drooping; spikets egg-shaped: awns straddling. LINN. Panicle unbranched. HUDS.

*Barr.* 24. 1—*Scheuch.* 5. 11—*Mont.* 32.

*Panicle* nodding. *Spikets* smooth, egg-shaped, each on a little pedicle, thread-shaped, but thicker towards the top. *Awns* straddling. LINN.

*Open-awned Brome-grass.* Cornfields near Glastenbury, Somersetshire, and Marshfield, Sussex. HUDS. A. July.

This is inserted on the authority of Mr. HUDSON, but I have never seen a native specimen.

erec'tus. B. Panicle upright; ending abruptly: spikets oblong, hairy, awned, about 5 florets in each: straws straight; leaves hard.

*E. bot.* 471—*Vaill.* 18. 2—*Scheuch.* 5. 13.

*Awns* a continuation of the keel of the blossom, thus forming the connecting link between this genus and Festuca. WOODW. *Panicle* branches each supporting a single spiket. *Spikets* slender, 5 to 7-flowered. *Calyx* somewhat hairy, ribbed, keeled, slender pointed, but not awned. *Bloss.* with a large knot at the base, hairy, outer valve ribbed and keeled. *Awn* shorter than the blossom. *Anthers* deep saffron colour.

Cornfields.—[Ditchley Park. Mr. WOODWARD.—In pasture ground near Short Wood, Pucklechurch. Mr. SWAYNE.]

Var. 2. *smooth.* Spikets smooth, from 5 to 8-flowered; awns straight, short: lower part of the panicle drooping.

Bromus *arvensis*. Huds. not of Linn. In Ditchley Park, intermixed with the former, also at Earsham, near Bungay. Mr. Woodward.*

B. Panicle diffuse, upright but open: spikets strap-shaped, the middlemost in pairs: pedicles thickest at the top. madriten'sis.

*H. ox.* viii. 7. 13.—*Barr.* 76. 1.

*Straws* 2 feet high, sleek, joints swoln. *Leaves* broadish, soft. *Panicle* loose, with no great number of spikets. *Spikets* straight, nearly upright, in threes, each of which generally on a fruit-stalk, and sometimes a fourth, with mostly 2 on a fruit-stalk. *Awns* long, upright. Linn. *Panicle* not branched. *Calyx* keeled, hairy, of 10 florets. *Bloss.* ribbed, hairy. *Awns* shorter than the blossom. *Bromus diandrus*. Curt.

*Bromus muralis*. Huds. *Wall Brome-grass*. On old walls about London and Oxford. Huds. [Severn Stoke, Worcestershire. St.] A. May.

B. Panicle drooping, rough: spikets hairy, awned: leaves rough. Linn. Spikets slender, 10-flowered: sheaths of the leaves hairy. Curt. as'per.

*Curt.* 105–*H. ox.* viii. 7. 27.

Panicle *branches* bearing from 1 to 3 spikets, very rough, thickest upwards, pointing one way. *Spikets* from 6 to 10-flowered, long, slender, nearly cylindrical. *Calyx larger* valve ribbed; *smaller* keeled. *Bloss.* larger valve, ribbed towards the end. *Awn* $\frac{1}{3}$ the length of the blossom.

*Bromus ramosus*. Huds. *ed.* i. *B. nemoralis. ed.* ii. B. *hirsutus*: Curt. *B. sylvaticus*. Vogler. *B. altissimus*. Wiggers. *Br. montanus*. Pollich. *Hairy-stalked Brome-grass*. Woods and hedges, frequent. A. June—Aug.

B. Panicle spreading: spikets oblong: florets 2-rowed: calyx taper pointed. Linn. Awns very long. ster'ilis.

*Curt.*–*H. ox.* viii. 7. 11–*Leers* 11. 4–*Mont.* 1–*Dod.* 540. 2–*Leb. obs.* 20. 1–*Ger. em.* 76. 1–*Park.* 1148. 1–*Ger.* 69. 1–*C. B. th.* 146–*Math.* 1205–*J. B.* ii. 439. 2–*Scheuch.* 5. 14.

*Leaves* ribbed, hairy, not very harsh. *Panicle* branches from 4 to 6 issuing from the same point; very long, rarely sub-

* A coarse grass, disliked by cattle, as are all the Bromes. Properly a Fescue, but has the habit of a Brome. Mr. Swayne.

divided. *Spikets* flat, broader upwards. *Calyx* 6 or 7-flowered, *smaller* valve keeled, *larger* ribbed, tapering to a point but not awned. *Bloss.* larger valve ribbed, very rough, not hairy. *Awns* much longer than the blossom.

*Barren Brome-grass.* Woods and hedge sides, frequent. A. June, July.

arven'sis. B. Panicle drooping: spikets egg-oblong.

Var. 1. *Awned.*

*Leers.* 11. 8–*Scheuch.* 5. 15.

I have a specimen of this with *awns* of some length from an excellent botanist, but where gathered I do not know. WOODWARD.

Var. 2. *Awnless.*

*Fl. dan.* 293.

*Straw* 5 inches high. *Root-leaves* awl-shaped, smooth channelled, stiff. *Panicle* close, consisting of 8 or 10 spikets. *Spikets* almost sitting, and growing on one side of the stalk; smooth, awnless, consiting of 5 florets. The above differences possibly occasioned by the sea water, and the poverty of the soil. LIGHTF. Shores of the isle of Oransay. LIGHTF. A. July.

The Fl. Lapp. and Suec. certainly contains under the head of Br. arvensis the synonyms of different plants, and the subject has not yet been sufficiently examined. Mr. Lightfoot by his reference to fl. dan. has demonstrated the existence of that var. with us, but the plant of Scheuchzer, referred to in the Sp. pl. is not yet fully established as a native. The plant called B. arvensis by Leers differs somewhat from that of Scheuch: but hardly enough to cause it to be considered as distinct.

gigante'us. B. Panicle drooping: spikets 4-flowered, shorter than the awns.

*Curt.* 344–*Schreb.* 11–*Leers* 10. 1–*Fl. dan.* 440.–*Vaill.* 18. 3–*Scheuch.* 5. 17 *and* 19–*Wieg.* 1. 5.

Four or 5 feet high. Leaves $\frac{1}{2}$ inch broad. Sheath-scale purple, cloven, embracing the straw. This circumstance alone, as Mr. Curtis has observed, is sufficient to distinguish it. Panicle *branches* in pairs, subdivided. *Calyx* valves keeled, slender tapering to a point, from 3 to 6-flowered. *Bloss.* not ribbed, not hairy. *Awns* full twice the length of the blossom.

*Tall Brome-grass.* Woods and moist hedges. P. July. Aug.

pinna'tus. B. Straw undivided: spikets alternate, nearly sitting; cylindrical, somewhat awned. LINN.—Festuca *pinnata.*

*E. bot.* 730.

*Spikets* with their flat sides turned towards the straw. *Awns* terminating. *Leaves* flat. LINN.

Not uncommon in Yorkshire, Oxfordshire, and Kent. Dr. SMITH.

STI'PA. *Calyx* 2-valved; 1-flowered: *bloss.* outer valve ending in an awn: *awn* jointed at the base.

S. Awns woolly. penna'ta.

*H. ox.* viii. 7. *row.* 3. 9–*Barr.* 46–*C. B. th.* 71–*Munt.* 617–*Clus.* ii. 221. 3–*Ger. em.* 42. 6.–*J. B.* ii. 512. 2–*Mont.* 68–*Scheuch.* 3. 13. *B.* (*Munting* 173, *good.* Mr. Woodward.)

*Awns* from 6 to 12 inches long, or more; set with very fine, white, soft, pellucid, diverging hairs. This very beautiful and remarkable feature at once distinguishes it from all our other grasses.

*Downy Feather-grass.* Mountains. [Near Kendal, Westmoreland. Mr. ALDERSON.] P. July, Aug.

In Ray's Syn. p. 393, this elegant grass is said to have been found by Dr. Richardson and Thomas Lawson, on the limestone rocks hanging over a little valley called Longsleadale, about 6 miles N. of Kendal in Westmoreland. Hudson gives no other place of growth, but in the 2d ed. of the Bot. Arr. Mr. Alderson, is said to have found it near Kendal; but this I am now informed is a mistake, and Mr. Gough who lives at Kendal, tells me he has never found it, nor has heard of any person that has, except those just mentioned, there is therefore reason to fear that it may be exterminated. I have only seen garden specimens. P. July—Aug.

AVE'NA. *Calyx* 2-valved; many-flowered: *awn* from the back of the blossom, twisted.

A. Panicled: calyx 2-flowered: male floret awned; hermaphrodite floret sometimes awnless. ela'tior.

*Gram. pasc.–Schreb.* 1–*Curt.* 191–*E. bot.* 813–*H. ox.* viii. 7. 38–*Park.* 1176. 1–*C. B. th.* 18–*J. B.* ii. 456–*Ger. em.* 23–*Fl. dan.* 165–*Leers* 4. 4–*Scheuch.* 4. 27 *and* 28.

*Root* bulbous, sometimes a double pear-shaped bulb, one above the other. *Straw* about 5 feet high: knots woolly. *Leaves* not hairy. *Bloss.* hairy at the base. The structure of the blossom

agrees so well with that of the Holcus that some have thought it best placed under that genus, and Gmelin has called it Holcus *avenaceus*, under which name it will be found in this work; but its habit authorizes us to retain it as an Avena, especially when we subjoin the following remarks by which it may be distinguished from that var. of Holcus mollis which contains 2 or 3 florets in each calyx, one of them male. This species of Holcus has none of those large bulb-like knots at the root and the base of the straw which are so remarkable in the Avena elatior. The panicle of the latter is 8 or 10 inches long, in the former hardly half that length. In the Avena the leaves and sheaths are free from hairs, the knots on the joints only are woolly, but in the Holcus almost the whole plant is set with soft hairs.

*Tall Oat-grass or Oat. Holcus avenaceus.* Gmel. syst. veg.—E. bot. Wet and damp places. Meadows, pastures, and hollow ways. P. June. Aug.*

nu'da. A. Panicled: calyx 3-flowered, shorter than the receptacle: petals awned upon the back: the 3d floret awnless.

*Dicks. h. s.—H. ox.* viii. 7. 4—*Ger.* 68. 2—*C. B.* 471—*J. B.* ii. 433, *cap.* xxi.—*Dod.* 511. 2—*Ger. em.* 75. 2—*Park.* 1134. 2.

The seeds when ripe fall out of the husks. Linn. *Spikets* with 2 or 3 florets. Awn neither twisted nor jointed. Hall. *Panicle* 5 to 8 inches long, lower branches subdivided. Cal. and Bloss. ribbed. *Awn* about the length of the blossom.

*Naked Oat. Pilcorn. Pills.* Staffordshire. Plot.—Cultivated in Cornwall. Ray. A. July.†

fat'ua. A. Panicled: calyx 3-flowered, all the florets awned, and hairy at the base.

*Leers* 9. 4—*Mill. ill.—H. ox.* viii. 7. 5—*Barr.* 75. 2.

*Bloss.* with a few long hairs near the end, as well as shorter hairs at the base. *Awn* twice the length of the blossom, knee-bent at a joint which stands even with the top of the calyx.

* Cows, sheep, and goats eat it.—The roots are sometimes very troublesome to the farmers in arable lands. St. producing a kind of squitch. It affords a large crop, but is unpalateable to cattle, especially to horses, as are the Avenæ in general. Mr. Swayne.

† This is nearly as good as the cultivated oat; it will make gruel or oat cake, and feed cattle as well as that. Ray says it sells in Cornwall at the price of wheat.

*Bearded wild Oats. Hover.* Corn fields. A. July, Aug.*

A. Panicle spike-like: calyx 3-flowered: blossoms bearded at the base: leaves flat, downy. pubes'cens.

*Leers* 9. 2–*Ray* 21. 2–*Schench.* 4. 20–*Mont.* 65.

Very closely allied to the A. *pratensis*, but the leaves not rolled in. LINN. *Florets* sometimes only 2, sometimes 4, and, in the more luxuriant plants, sometimes 5. SCHEUCH. Panicle *branches* shorter than the spikets, except the lower ones which are longer and sometimes, though rarely, branched. Calyx frequently 2-flowered. Florets purplish and silvery white. *Bloss.* half the length of the awn, with long hairs at the base, but none at the end.

*Rough Oat.* Dry chalky soils. [Norfolk. Mr. WOODWARD. —Wick Cliffs. Mr. SWAYNE.—Marlborough Downs.] Disagreeable to cattle. Mr. SWAYNE. P. June.

A. Panicle loose: calyx 3-flowered, short: all the florets awned. flaves'cens.

*Gram. pasc.–Curt.* 212–*Shreb.* 9–*Leers* 10. 5–*Scheuch.* 4. 18–*H. ox.* viii. 7. 42–*Mont.* 79.

About ½ a yard high. Leaves yellow green. *Panicle* much branched, yellow green, changing to shining golden yellow: wide spread whilst in flower, upright and compact when in seed. *Spikets* short, 2 or 3-flowered, 1 floret often imperfect. *Awn* nearly twice as long as the blossom. It may be distinguished at a considerable distance by the colour of the foliage as well as that of the panicle.

*Yellow Oat.* Meadows, pastures, hills, particularly in a calcareous soil. Cattle are not fond of it, but Mr. SWAYNE says it is the best of the genus for the use of the farmer. P. July.

A. Panicle spike-like: calyx 5-flowered. praten'sis.

*Fl. dan.* 1083–*Leers* 9. 1–*Ray* 21. 1 *Vaill.* 18. 1–*H. ox.* viii. 7. 21. *Mont.* 66.

*Straw* quite smooth. *Leaves* roughish doubled together. *Panicle* about 4 inches long, branches upright, undivided, except one or two at the bottom. *Spikets* strap-shaped, upper ones nearly sitting. *Awns* longer than the blossom.

* Horses, sheep, and goats eat it.—The awns are used for Hygrometers. Sometimes so prevalent amongst barley as almost entirely to choke it. It may be extirpated by repeated fallowing, or laying down the land in grass.

*Meadow Oat.* Heaths and high chalkey lands. [Norfolk, very frequent. Mr. WOODWARD.—King's Park, Edinburgh, Dr. SMITH.] P. July.

strigo'sa. A. Panicle oblong, compact, pointing one way: florets in pairs, with 2 awns at the end, and a jointed awn on the back. SCHREBER.

*Straw* and leaves naked. RETZ. *Calyx* as long as the spiket. *Florets* smooth, the terminating awns short, fine, red, but white at the end. *Awn* from the back, twice the length of the blossom. Not described by any writer. SCHREB. spicileg.

Amongst oats. Specimen in my Herbarium found in the North of England, but I know not exactly where. A.

LAGU'RUS. *Cal.* 2-valved, awn woolly: *bloss.* outer petal with 2 awns at the end, and a twisted awn at the back.

ova'tus. L. Spike egg-shaped, awned.

*Dicks. h. s.–Schreb.* 12. 3–*Barr. ic.* 116–*Scheuch.* 2. 4. *B. C.–C. B. th.* 56. 2.

From 12 to 18 inches high. *Straw* smooth. Leaves and sheaths soft and woolly. Spike $1\frac{1}{4}$ inch long, 1 inch broad near the base.

This is a native of the more southern parts of Europe, but is inserted here on the authority of Mr. Dickson's Herbarium, where it is given as growing in the island of Guernsey. A.

ARUN'DO. *Cal.* 2-valved: *bloss.* awnless, surrounded with down at the base.

phragmi'tes. A. Calyx 5-flowered: panicle spreading.

*E. bot.* 401.–*H. ox.* viii. 8. 1–*Dod.* 602–*Lob. obs.* 28. 1–*Ger. em.* 36. 1–*Park.* 1209. 1–*J. B.* ii. 485. 1–*C. B. th.* 269–*Trag.* 674. 2–*Leers* 7. 1–*Mont. Arundo B. E.–Scheuch.* 3. 14. *D.*

*Florets* 4 and 5. smooth, but surrounded at the base with *down* about the length of the florets, which rises from the spike-stalk, and not from the base of the blossom. (Scheuch.) as erroneously figured by Leers, (St.) so that in fact the downy fibres are on the outside of the calyx.

*Common Reed.* Rivers, lakes ditches; very common. P. July.*

* The panicles are used by the country people in Sweden to dye woollen green. The reeds are much more durable than straw for thatching.

A. Calyx 1-flowered: panicle upright: leaves smooth underneath. *See* Calamagrostis *Epigejos*. Epigejos.

A. Calyx 1-flowered, smooth: blossoms woolly: straw branched. *See* Calamagrostis *lanceolata*. Calamagrostis.

A. Calyx 1-flowered: leaves rolled in at the edges, sharp pointed. *See* Calamagrostis *arenaria*. arena'ria.

LO'LIUM. *Cal.* 1 leaf, fixed, many-flowered, *spikets* alternate.

L. Spike awnless: spikets compressed, many-flowered, longer than the calyx. peren'ne.

*Gram. pasc.–Dicks. h. s.–Schreb.* 37–*Leers.* 12. 1–*H. ox.* viii. 2. 2–*Fl. dan.* 747–*Dod.* 540. 1–*Lob. obs.* 21. 1–*Ger. em.* 78. 2–*Park.* 1145, 2, *and* 1146. 7–*C. B.* 128–*Math.* 1023–*Scheuch.* 1. 7, A. B. C. D.–*Mont.* 19.

This plant is subject to considerable var. as it grows in rich or poor soil it is from 6 to 20 inches high or more, and the parts of fructification vary in proportion. The spike is generally flat, but sometimes nearly cylindrical. *Spike* sometimes shews a disposition to become branched, particularly towards the bottom. *Calyx* from 3 to 6 or 7-flowered; the terminating calyx 2-leaved.

Var. 2. *tenue.* Spike awnless, cylindrical; spikets 3-flowered. Lolium *tenue.* LINN.

Var. 3. *Broad spiked.* Spike compound.

*Scheuchz. pr.* 2. *Gramen loliaceum, &c.*

Spike as broad as it is long, composed of many smaller spikes placed in a double row and closely crowded together. Scheuch. This var. is inserted on the authority of Dr. Sibthorpe in Fl. ox. but he has given only the general habitat of pastures. Way-sides.

*Ray-grass. Rye-grass. Crap. Red Darnel.* Road side, dry pastures. P. June.*

ing. Screens to keep off the cold winds in gardens, are made of them; and they are laid across the frame of wood-work, as the foundation for plaister floors.

* It makes an excellent hay upon dry chalkey or sandy soils. It is cultivated with advantage along with clover, and springs earlier than the other grasses; thereby supplying food for cattle, at a season when it is most difficult to be obtained. Cows, horses, and sheep eat it. Goats are not fond of it. It was hinted in the Gramina pascua by Mr.

temulen'tum. L. Spikets awned, compressed, many-flowered; not longer than the calyx: straw rough.

*Schreb.* 36–*Fl. dan.* 160–*Leers* 12. 2–*H. ox.* viii. 2, *row* 2. 1. *n.* 2–*Dod.* 538–*Lob. obs.* 21. 2–*Ger. em.* 78. 1–*Park.* 1145. 1–*Ger.* 71–*C. B. th.* 121–*Mus. rust.* vi. 1. 1–*Scheuch.* 1. 7. *E. F.*–*Mont.* 18.

*Straw* rough when stroked upwards. *Leaves* rough when stroked downwards. *Spike* 4 to 6 inches long, rough. *Awns* longer than the blossom. Terminating spiket with a 2-leaved calyx, and the lowermost spikets have a minute inner leaf to the calyx.

*Darnel.* Ploughed lands, mostly among barley and flax.

A. July, Aug.*

arven'se. L. Spikets awnless, rather shorter than the calyx: calyx 2-valved: straw smooth.

*H. ox.* viii. 2. *row* 2. 1. *n.* 1–*Matth.* 411–*J. B.* ii. 437.

Whole plant smooth, except the leaves, which are rough when stroked downwards. *Leaves* broad. *Spike* 6 to 12 inches or more in length. *Spiket* 6-flowered. *Calyx* outer valve strong, hard, longer than the spiket; inner valve much smaller and finer in its texture. *Bloss.* awnless, larger valve with 1 or 2 long and soft hairs at the end.

*White Darnel.* A. July.†

Mr. Swayne, *(a)* that there was reason to think that the common cultivated *Ray-grass* had by frequent sowing degenerated from its natural qualities, that it was inferior in many respects to the Ray-grass growing naturally in our best meadows and pastures. Mr. Pacey, an enlightened agriculturist in the upper part of this county, has lately raised a variety of *Ray-grass* from seed selected from old pastures, and has now multiplied it to that extent as to sell annually a considerable quantity at the price of 10s. 6d. per bushel. It has been proved by the most competent judges, to be infinitely superior to the cultivated *Ray-grass*, and he has a demand for all he raises. What can have been the cause of the degeneracy of the cultivated sort? Has the *temulentum* had any share in this mischief? Mr. Swayne.

* The seeds, mixed with bread-corn, produce but little effect, unless the bread be eaten hot; but, if malted with barley, the ale soon occasions drunkenness. Linn. Made into bread, with a small proportion of wheat, and eaten repeatedly, produced vomiting, purging, violent colics, and death. Vol. 67. M. Review, p. 559.—Sheep are not fond of it.

† It is very injurious to a wheat crop, but may readily be avoided, as it is sown along with the seed. Mr. Pitt.

*(a)* A publication perfectly well calculated to instruct farmers and gentlemen, who do not find leisure to enter minutely into botanical enquiries, how to distinguish the pasture grasses.

L. Panicle undivided, pointing one way: spikets awned. bromoi'des. HUDS.

*Ray* 17. 2.

From 6 to 12 inches high; slanting, cylindrical, smooth, a little branched. *Leaves* a little rolled inwards, sharp, naked, much shorter than the leaf-stalk. *Sheath-scale* membranaceous, bluntish. *Spikets* on fruit-stalks, strap-shaped; florets from 4 to 8 in each. *Fruit-stalks* short, thick, rough. *Husk* 1 valve, strap-shaped, concave, awned. *Bloss.* 2 valves, unequal. *Outer valve* larger, strap-shaped, keeled, awned, rough. *Inner valve* smaller, flat, strap-shaped, awnless. *Awn* twice the length of the floret. HUDS.

*Wild Oat-grass*, or *Drank*. *Sea Darnel*. Sea coasts, in loose sand. A. May, June.

ROTTBO'LLIA. *Cal.* of 1 or 2 valves, egg-spear-shaped, flat: *florets* alternate, on a zigzag spike-stalk: *bloss.* 2-valved, awnless.

R. Spike cylindrical, awl-shaped: calyx husk awl-shaped, contiguous, divided into two. LINN. the SON. *Suppl.* 114. incurva'ta.

*Fl. dan.* 938—*H. ox.* viii. 2. 8—*Park.* 1146—*Barr.* 5 *and* 6—*Scheuch.* 2. 1—*Pluk.* 194. 6.

*Spike* without awns, smooth, thread-shaped, crooked, but little thicker than the straw. *Calyx* of 2 valves: both placed outwardly. *Bloss.* valves placed contrariwise to those of the calyx. LINN. All the florets which I have ever examined are hermaphrodite. ST. *Stems* branched. *Spike* cylindrical, not thicker than the stem, whence it is not readily observable, unless when in flower. RAY. Mr. WOODWARD. *Leaves* short, firm. *Flowering stems* ascending, below whitish, cylindrical and smooth. *Spike* green. *Florets*, one to each joint, alternate. *Calyx* valves strap-spear-shaped, ending in a stiff point, the point lying in a notch of the joint above, stiff, green, furrowed without, white and shining within, one expanding when the pollen is ripe. *Blossom* nearly as long as the calyx. WOODWARD.

*Ægilops incurvata*. LINN. *Sea Hard-grass*. Sea coast. [Salt Marsh, below King's Weston, near Bristol. ST.—Near Yarmouth. Mr. CROWE.—Near Seaton, county of Durham. Mr. ROBSON.] P. July, Aug.

E'LYMUS. *Cal.* lateral, 2-valved, several together, many-flowered.

arena'rius. E. Spike upright, compact: calyx woolly: longer than the floret.

*Schreb.* 40–*Gmel.* i. 25–*Clus.* ii. 221. 2–*C. B.* 68. 2–*Ger.* 23–*C. B. th.* 14–*Park.* 1277. 1–*J. B.* ii. 478. 2.–*H. ox.* viii. 2. 11.

*Spike* upright, long, woolly. *Little spikes* 2 together, straight, containing 2 florets, awnless. *Leaves* like those of an Arundo, bluish green, or whitish; rolled inwards and sharp-pointed. LINN.

*Sea Lime-grass.* Sea coast, in loose sand. P. July, Aug.*

cani'nus. E. Spike compact, leaning: spikets upright, without an involucrum: the lowermost in pairs. *See* Triticum *caninum.*

europœ'us. E. Spike upright: spikets 2 florets in each; as long as the calyx.

*Scheuch. pr.* 1. 1–*Park.* 1144. 7. (1)–*Mont.* 94.

*Florets*, together with their awns, longer than the fence. LINN. *Leaves of the fence* equal, somewhat scored towards the end. *Florets* often 2, and both fertile; with the rudiment. In structure it is an *Elymus*, in habit it approaches rather more to the *Hordeum*. In truth it seems the connecting link between these two genera. *Floret* generally single. ST.

*Hordeum sylvaticum.* HUDS. *Wood Lime-grass.* Woods in chalky soil. [Rocks opposite Matlock Baths; Ripton Woods, Huntingdonshire. Near Berkhamstead, Herts. In the North, frequent. Mr. WOODWARD.] P. June.

## HOR'DEUM. *Cal.* lateral, 2-valved, 1-flowered, 3 together.

OBS. The curious, but complicated structure of the Hordeum, has prevented many young botanists from ascertaining the species to their own satisfaction, though there is no great difficulty in the task. We have only 3 species in this island, all of which have

1st. Two male and 1 hermaphrodite floret in each set.

2d. All the awns, whether belonging to the involucrum, or to the larger valve of the blossom, barbed.

3d. Smaller and inner valve of the blossom awnless.

4th. Involucrum, or fence, 2 leafits, or awn-like substances to each floret, and a third to the hermaphrodite floret, placed

* It resists the spreading of the loose sand on the sea shore. It is not capable of being formed into ropes as the Stipa tenacissima is in Spain?—Cows, horses, and goats eat it; sheep refuse it.

at the base and on the outside of the inner valve of the blossom, and about the length of the valve.

The following circumstances readily discriminate the British species.

H. *muri'num.* Some of the fence-leaves fringed at the base.

H. *praten'se.* Fence-leaves bristle-shaped, neither fringed nor expanded at the base.

H. *marit'imum.* Some of the fence-leaves expanded and spear-shaped at the base.

H. Lateral florets male; awned, smooth on the keel: involucrum of the intermediate florets fringed. muri'num.

*Curt.* 325–*Fl. dan.* 629–*Lob. obs.* 18. 1–*Park.* 1157–*H. ox.* viii. 6. 4. *Gr. secalin–Ger.* 66. 2–*C. B.* 134–*Ger. em.* 73, *upper figure–Barr.* 111. 1–*Mont.* 90, *the middle floret.*

*Involucrum* half the length of the florets. *Florets* 2 barren, 1 fertile forming a set; the larger valve in all the florets awned. Each *male*, or barren floret has 2 fence-leaves; one of which is fringed at the base. The fertile, or *hermaphrodite* floret has 2 fence-leaves on the outside the larger awned valve of the blossom, both of which are fringed at the base. This fertile floret has also a third fence-leaf, resembling an awn, placed at the base of the inner valve of the blossom, and not fringed.

*Wall Barley. Way Bennet. Wild Rye. Rye-grass.* Walls and road sides, common. A. April—Aug.*

H. Lateral florets male, awnless: involucr. bristle-shaped, rough. HUDS. praten'se.

*Gram. pasc.–E. bot.* 409–*Vaill.* 17. 6–*H. ox.* viii. 2. *row* 1. 6–*Fl. dan.* 630–*Park.* 1144. 7. (3)–*Mont.* 96.

*Involucrum* longer than the barren, shorter than the fertile florets. *Florets*, 2 barren, 1 fertile, forming a set, the larger valve in all the florets awned. Each *barren* floret has a fence of 2 awn-like leaves, neither fringed nor expanded at the base. The *fertile* floret has 2 awn-like fence-leaves on the outside the larger awned valve of the blossom, and a third at the base of the inner or smaller valve, none of them either fringed or expanded at the base.

*Hordeum murinum.* β LINN.—*Hordeum secalinum.* SCHREB. *spicileg. Hordeum maritimum.* OEDER.—*Meadow Barley.* Moist pastures. P. June.†

* Sheep and horses eat it. It feeds the Brown Moth *Pha'æna grànella* —and the Barley Fly, *Musca frit.*

† In moist meadows it produces a considerable quantity of hay, but is not to be recommended as one of the best grasses for the farmer. The best

mari'timum. H. Lateral florets male, awnless: middle floret hermaphrodite, with a long awn.

*Dicks. h. s.–H. ox.* viii. 6. 5.

*Involucrum* longer than the barren, shorter than the fertile florets. *Florets* 2 barren, 1 fertile, forming a set; the larger valve in all the florets awned. Each *barren* floret has 2 fence-leaves, one of which is spear-shaped at the base. The *fertile* floret has 2 awn-like fence-leaves on the outside the large awned valve of the blossom, and a third short one at the base of the inner or smaller valve.

This is the true *Squirrel-tail* Grass of the Isle of Thanet, and not as Mr. Curtis says, the Hord. murinum. In its short and stunted growth, from its maritime situation, the awns are rigid and strongly barbed, so as to be extremely troublesome to the mouths of horses when mixed with hay. Major Velley, who sent me the specimen, says it is very common all along the Kentish coast, from Sheppey Isle to the Isle of Thanet. The Hord. murinum on the sea coast sometimes assumes the stunted habit of the true Squirrel-tail, but it wants the rigidity of that, and is not so strongly barbed.

*Sea side Barley. Gram. spicat. secalin. maritimum minus.* Scheuch. 18. St. *Sea Barley. Hordeum marinum.* Huds. Meadows and pastures, near the sea. A. June, July.

sylvati'cum. H. All the florets hermaphrodite, awned: calyxes growing together at the base, shorter than the awns. Huds.

Elymus *europæus*, which see. *Hordeum cylindricum.* Murr. prod. 43.

TRI'TICUM. *Calyx* 2-valved, solitary, mostly 3-flowered: *floret* bluntish.

jun'ceum. T. Calyx 5-flowered, lopped: leaves, edges rolled in.

*Dicks. h. s.–Fl. dan.* 916–*E. bot.* 814–*C. B. th.* 132–*H. ox.* viii. 1. 5.

Extremely smooth. *Sheaths* downy. *Leaves* sharp-pointed; very narrow; sea-green on the upper surface. *Spikets* pressed to the straw. *Calyx* and *Bloss.* with or without awns. Linn.

best grasses, in my opinion, are the Alopecurus *pratensis*, Poa *trivialis*, Dactylis *glomerata*, Cynosurus *cristatus*, Festuca *duriuscula*, Festuca *pratensis*, Festuca *hybrida*, Avena *flavescens*, and above all Lolium *perenne*, carefully raised from seeds, first selected from the best varieties to be found in old meadows and pastures. If gardeners, and even farmers, are so careful, as we know they are, in raising the seed of their cabbages and turnips, surely some of this care is due to their cultivated grasses. Mr. Swayne.

Var. 2. With a leafy spike. RAY.

*Ger.* 23. 2. *C. B.* 15.—*Park.* 1277. 3;—*this seems only a diseased plant, possibly from the puncture of insects.*

*Sea Wheat-grass. Rush Wheat.* Sea shore, common. [Beach at Yarmouth. Mr. WOODWARD.] P. June, July.

T. repens. Calyx 4-flowered, awl-shaped, tapering to a point: leaves flat.

*Schreb.* 26.

Var. 2. Calyx 2 to 5-flowered; awnless.—Salt banks at Weymouth.

*Schreb.* 26. III.—*Leers* 12. 3—*H. ox.* viii. *row* 3. 8—*Mont.* 25.

Var. 3. Calyx 5 to 8-flowered; awns not a line long.

*Schreb.* 26. II. *and* 2 *and* 3—*Mont.* 26—*Park.* 1173. 2—*Barr.* 906. 2—*C. B. pr.* 17. 1—*th.* 131—*Gmel.* 1. 24—*Scheuch.* 1. 1. *A. C.* 1.

Var. 4. Calyx 4 to 6-flowered; awns 2 to 4 lines long. ST. *Fl. dan.* 748—*Schreb.* 26. 5 *and* 7—*Scheuch.* 1. 1. *C.* 2.

Var. 5. Leaves sea green, stiff, acute. RAY. Calyx from 3 to 8-flowered; florets pointed. HUDS. Sea coast.

*Dogs-grass, Squitch-grass, Couch-grass, Quitch-grass, Couch Wheat.* Very common. P. June—Aug.*

T. caninum. Calyx pointed, mostly 4-flowered: awns longer than the blossom: spikets upright.

*Leers* 12. 4. II.—*H. ox.* viii. 1. *row* 3. 2—*Buxb.* iv. 50.

*Bloss. inner valve* spear-shaped, just sensibly longer than the outer; *outer* bare of hairs, edges at the point membranaceous. The above circumstances distinguish it from the *Festuca sylvatica*, which it very much resembles in its general appearance. ST.

*Triticum caninum.* LINN. sp. pl. ed. I. HUDS. SCHREB. spicileg.

* It is a most troublesome weed in arable lands, and can only be destroyed by fallowing in a dry summer. At Naples the roots are collected in large quantities, and sold in the market to feed horses; they have a sweet taste, something approaching to that of liquorice; when dried and ground to meal, they have been made into bread in years of scarcity. The juice of them drank liberally is recommended by Boerhaave in obstructions of the viscera; particularly in cases of schirrous liver and jaundice. Cattle are frequently found to have schirrous livers in the winter, and they soon get cured when turned out to grass in the spring. Dogs eat the leaves to excite vomiting.—Horses eat them when young, but leave them when fully grown. Mr. SOUTHWELL. Cows, Sheep, and Goats eat them. Mr. Pitt observes, that this is the most common kind of Squitch in gardens, but that the Squitch so troublesome in arable lands is formed by several species of Agrostis, Holcus *mollis*, and Avena *elatior*.—Staffordshire Reports.

*Elymus caninus.* LINN. *Dogs Wheat.* Woods and hedges. [Ripton Wood, Huntingdonshire, and in the North, frequent. Mr. WOODWARD.] P. June, July.

lolia'ceum. T. Spike simple: compressed: spikets egg-shaped but pointed: calyx many-flowered.

*E. bot.* 221–*Pluk.* 32. 7.

Whole plant rigid, 3 or 4 inches high. Floral leaf shorter than the spike. *Spike* 1¼ to 2 inches long, ¼ inch broad. *Spikets* 10 to 15, not crowded. Calyx 6 or 8-flowered, both that and the blossom awnless. The serpentine spike-stalk, which from the spikets facing one way becomes visible behind through its whole length, has a strong wood-like mid-rib, edged with a thinner and greener border, the same as in the Poa rigida.

*Poa loliacea.* HUDS. *Sea Wheat.* Sandy sea shores. A. June, July.

## TRIGYNIA.

AMARAN'THUS. Flowers M. and F. on the same plant: *bloss.* none: *calyx* 3 or 5-leaved.
Male. Stamens from 2 to 5.
Fem. *Caps.* 1 cell, cut round; 1 seed.

Bli'tum. A. Stamens 3: clusters lateral: flowers 3-cleft: stem spreading.

*Kniph.* 11–*Cam. epit.* 236–*J. B.* ii. 967. 1–*Pet.* 7–*H. ox.* v. 30. 5–*Lob. ic.* i. 250. 1–*Ger. em.* 321. 4.

*Leaves* sometimes white or silvery in the middle, with or without a brown spot. LINN. *Leaves* alternate, the smaller egg-shaped, the larger somewhat rhomboidal, with a deep notch at the end, and usually a small projecting point, entire; with a strong mid-rib and parallel ribs underneath. *Leaf-stalks* as long as the leaves. *Flowers* numerous. *Bunches* irregular, sitting, on small lateral branches, with small leaves interspersed. Mr. WOODWARD.

On rubbish. [Ripton, Huntingdonshire. Mr. WOODWARD.] A. Aug.

MON'TIA. *Calyx* 2 leaves: *bloss.* 1 petal, irregular: *caps.* 1-celled, 2-valved.

fonta'na. M. *fontana.*

*Mich.* 13. 2–*Curt.* 188–*Vaill.* 3. 4–*Pluk.* 7. 5–*Pet.* 10. 12–*Fl. dan.* 131.

*Stems* succulent, trailing, crooked; white or tinged with pink. *Leaves* rather fleshy, egg-shaped, opposite; 2 at each joint of the stem. *Flowers* on long or short crooked fruit-stalks rising from the bosom of the leaves. *Bloss.* white. *Seeds* black, shining.

*Small Water Chickweed*, or *Purslane. Water Blinks.* Springs and watery lanes. Sometimes in wet ploughed lands. Wet heaths in Norfolk, frequent. Mr. WOODWARD. [Hockley Pool Grate, near Birmingham. Marazion Marsh in Cornwall, where it grows as large as the figure of Micheli.] A. May.

TILLÆ'A. *Calyx* with 3 or 4 divisions: *petals* 3 or 4, equal: *caps.* 3 or 4-seeded.

T. Trailing: flowers 3-cleft. musco'sa.

*E. bot.* 116–*Rose* 2. 2–*Mich.* 20.

*Stems* at first nearly upright, generally red. ROSE. *Parts of fructification* never more than 3. *Leaves* in pairs, fleshy. *Floral leaves* shaped like the other leaves, but smaller. *Stalks* considerably longer after flowering. Mr. Rose's description very good. Mr. WOODWARD.

*Mossy Red-shanks.* [Dry heaths, Norfolk and Suffolk. Mr. WOODWARD.] P. May, June.

HOLO'STEUM. *Calyx* 5 leaves: *petals* 5: *caps.* 1-celled, nearly cylindrical, opening at the top.

H. Flowers in umbels. umbella'tum.

*Dicks. h. s.–E. bot.* 27–*J. B.* iii. 361. 1.–*Rose* 2. 4–*Ger. em.* 595. 16–*Park.* 1338. 6–*H. ox.* v. 22. 46.

Whole *plant* smooth. *Stem* above bare of leaves. *Fruit-stalks* terminating, mostly hanging down, of various lengths, each with 1 flower. Mr. WOODWARD. *Leaves* egg-shaped, but pointed. *Petals* pale, reddish; toothed at the end, but not deeply divided as in the Cerastiums. *Stamens* 3, but sometimes more.

*Cerastium umbellatum.* Huds. *Umbelliferous Mouse-ear.* Old walls, banks, and sandy corn fields about Norwich, where it was first discovered and examined by Mr. J. Pichford. ROSE. Mr. WOODWARD.—Found about Bury, in Suffolk, by Mr. CULLUM. A. April, May.

POLYCAR'PON. *Calyx* 5 leaves: *petals* 5, small, egg-shaped: *caps.* 1-celled, 3-valved.

P. Stem branched, trailing: leaves in fours, inversely egg-shaped. tetraphyl'lum.

*Matth.* 734–*Barr.* 534–*J. B.* iii. 366. 2–*Lob. adv.* 196. 1.

Sometimes without petals. Huds. It alters its habit so much by cultivation as hardly to be known at first sight. Mr. Woodward. *Leaves* oval, very entire, on leaf-stalks, growing mostly in fours. Mr. Newbery.

*Four-leaved Allseed.* Dry sandy ground. [Lymston, near Exeter. Mr. Newbery.] A. May—Aug.

## ENNEAGYNIA.

EMPETRUM. M. and F. flowers on separate plants. *Calyx* with 3 divisions: *bloss.* 3 petals. Male. *Stam.* long. Fem. *Berry* with 9 seeds.

ni'grum. E. Stems trailing.

*Mill. ill. Dicks. h. s.–E. bot.* 526–*Fl. dan.* 975–*Tourn.* 421. 3.–*Matth.* 154–*Clus.* i. 45. 2–*Ger. em.* 1383. 9–*Park.* 1485. 2–*Cam. epit.* 77–*J. B.* i. *a.* 526.

A small trailing shrub. *Bark* the outer scaling off, brown; the inner yellow. *Branches* rough from the remains of the leaf-stalks. *Bud* terminating, of 5 leaves: the leaves membranaceous, hairy at the edge, producing 5 little branches, 4 of which are in a whirl. *Leaves* in fours, nearly 3-square, with a white strap-shaped keel, on leaf-stalks. *Flowers* from the bosom of the leaves, sitting, solitary, surrounded by a floral-leaf, sometimes male and female on distinct plants, sometimes on the same plant, and sometimes with hermaphrodite flowers. *Floral-leaf* with 3 divisions, forming a kind of outer cup. *Calyx* whitish. *Petals* and Filaments purple. *Anthers* brownish black. *Fertile plant* similar to the barren one. *Stem* redder. *Leaves* deep green, in fives. *Pistil* black. *Berries* brownish black. Prof. Jacquin has lately found several plants with hermaphrodite flowers. I formerly met with a single plant of that kind, but it was only one in ten thousand. Linn. *Leaves* sitting, smooth above, glandular underneath, woolly at the edges, and rolled back so that the edges meet on the under side. Calyx segments concave, very minutely serrated. *Petals* dark purplish red. *Anthers* full flesh-colour.

*Black-berried Heath. Black Crow-berries. Crake-berries.* Moist mountains and high heaths, both in the driest and most barren rocky soils, and in bogs and moorish grounds. Staffordshire, Derbyshire, and the Northern counties, frequent.

S. April. May.*

* The Highlanders frequently eat the berries, as sometimes do children, but they are no very desirable fruit, and if taken in large quantities occasion head-ache.–Grouse feed upon them—Boiled with alum they afford a dark purple dye. Goats are not fond of it; Cows, Sheep and Horses refuse it.

## CLASS IV.

# TETRANDRIA.

## MONOGYNIA.

(1) *Flowers of* 2 *petals and* 1 *seed; superior:* INCORPORATED.

DIP'SACUS. *Cal.* common, leafy: *Receptacle* conical; chaffy: *Seeds* like little pillars.

SCABIO'SA. *Cal.* common, of many leaves: *Receptacle* convex, somewhat chaffy: *Seeds* crowned; rolled in a cover.

(2) *Flowers of* 2 *petals, and* 2 *seeds.* INCORPORATED.

ERIOCAU'LON. Male and female florets incorporated in the same head, the former in the centre, the latter in the circumference.
*Cal.* common, of many scales.
*Cup* 2 leaves: *Bloss.* 2 petals.
F. *Capsules* 2 cells, and 2 seeds.

(3) *Flowers of* 1 *petal; beneath the germen.*

LITTOREL'LA. M. and F. flowers on the same plant.
*Cal.* 4-cleft.
M. *Cal.* 4 leaves: *Stam.* long.
F. *Cal.* none: *Style* long: *Seed* a nut.

CENTUN'CULUS. *Bloss.* wheel-shaped: *Cal.* with 4 divisions: *Caps.* 1 cell; cut round.

PLANTA'GO. *Bloss.* bent back as if broken: *Cal.* with 4 divisions: *Caps.* 2 cells; cut round.

EX'ACUM. *Bloss.* rather bell-shaped: *Cal.* 4 leaves: *Caps.* 2 cells, compressed.
[Gentiana campestris, and filiformis.]

(4) *Flowers of* 1 *petal; beneath, and* 4 *naked seeds.*
[Mentha.]

(5) *Flowers of* 1 *petal*; *above the germen.*

SANGUISOR'BA. *Bloss.* flat: *Cal.* 2 leaves: *Caps.* 4-cornered; between the cup and the blossom.

(6) *Flowers of* 1 *petal*; *superior*; *and* 2 *berries.* STARRY.

RU'BIA. *Bloss.* bell-shaped: *Fruit* like berries.

GA'LIUM. *Bloss.* flat: *Fruit* nearly globular: *Florets* all hermaphrodite.

ASPER'ULA. *Bloss.* tubular: *Fruit* nearly globular.

SHERAR'DIA. *Bloss.* tubular: *Fruit* crowned: *Seeds* with 3 teeth.

(7) *Flowers of* 4 *petals*; *beneath the germen.*

EPIME'DIUM. Nectariferous petals 4, reclining: *Cal.* 4 leaves: *Pod* 1 cell.

[Cardamine hirsuta. Evonymus europæus. Parietaria officinalis.]

(8) *Flowers of* 4 *petals*; *above the germen.*

COR'NUS. *Cal.* 4-toothed; deciduous: *Drupa* a nut with 2 cells.

(9) *Flowers incomplete*; *beneath the germen.*

ALCHEMIL'LA. *Cup* with 8 clefts: *Seed* 1, inclosed in the cup.

PARIETA'RIA. Flowers hermaphrodite, and female. *Cal.* 4-cleft: *Seed.* 1, elongated.

URTI'CA. Flowers male and female on the same, rarely on distinct plants.

M. *Cal.* 4 leaves: *Nectary* central; glass-shaped.

F. *Cal.* 2 valves: *Seed* 1; glossy.

(10) *Flowers incomplete*; *above the germen.*

VIS'CUM. Flowers male and female on distinct plants.

M. *Cal.* with 4 divisions: *Anthers* fixed to the calyx without any intervening filaments.

HIPPO'PHAE. Flowers male and female on distinct plants. *Bloss.* none.

M. *Cal.* with 2 divisions.

F. *Cal.* 2-cleft: *Berry* with 1 seed.

[Thesium alpinum. Ophrys Corallorhiza.]

## DIGYNIA.

BUFFO'NIA. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* 1 cell; 2 seeds and 2 valves.

BE'TULA. Flowers male and female on the same plant. *Cal.* 3-cleft: *Bloss.* with 3 or 4 divisions.
M. *Cal.* containing 3 flowers.
F. *Cal.* containing 2 flowers: *Seeds* with a membranaceous border on each side.

MYRI'CA. Flowers male and female on the same or on distinct plants. *Catkin* scales crescent-shaped: *Bloss.* none.
F. *Berry* with 1 seed.

CUS'CUTA. *Bloss.* 4-cleft; egg-shaped: *Cal.* 4-cleft: *Caps.* 2-celled: cut round.

[Herniaria glabra. Gentiana campestris, and filiformis. Galium Mollugo and Aparine.]

## TRIGYNIA.

BUX'US. Flowers male and female on the same plant.
M. *Cal.* 3 leaves: *Bloss.* 2 petals: *Germen* an imperfect rudiment only.
F. *Cal.* 4 leaves: *Bloss.* 3 petals: *Caps.* with 3 beaks and 3 cells: *Seeds* 2.

## TETRAGYNIA.

I'LEX. *Bloss.* 1 petal: *Cal.* 4-toothed: *Berry* with 4 seeds.

SAGI'NA. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* with 4 cells, and many seeds.

TILLÆ'A. (See Triandria Trigynia.)

POTAMOGE'TON. *Bloss.* none: *Cal.* 4 leaves: *Seeds* 4; sitting.

RUP'PIA. *Bloss.* none: *Cal.* none: *Seeds* 4; on footstalks.

[Holosteum umbellatum. Linum Radiola.]

## MONOGYNIA.

DIP'SACUS. *Cal. common* many-leaved; *proper* superior: *Receptacle* chaffy.

fullo'num. D. Leaves sitting; serrated: chaff bent backwards.

*Fl. dan.* 965–*Kniph.* 12–*Tourn.* 265–*Fuchs.* 224–*Trag.* 847–*J. B.* iii. 73–*Matthiol.* 661–*Dod.* 735. 1–*Lob. obs.* 487. 1–*Ger. em.* 1167. 1–*Park.* 984. 1–*H. ox.* vii. 36. 1–*Zanon.* 68.

*Scales* much harder than those of the D. *sylvestris*. HALL. *Manured Teasel. Dipsacus fullonum.* β LINN.*

sylves'tris. D. Leaves in opposite pairs, united at the base: chaff straight.

*Jacq. austr.* 402–*Curt.* 202–*Blackw.* 50–*Fuchs.* 225–*J. B.* iii. 74–*Matth.* 662–*Dod.* 735–*Lob. obs.* 487. 3–*Ger. em.* 1167. 2–*Park.* 984. 2–*Ger.* 1005. 1–*H. ox.* vii. 36. 3.

*Leaves* spear-shaped, the mid-rib set with hooked prickles, as is also the stem. Common calyx leaves of various lengths, rising up and some over topping the flowering head.

*Wild Teasel. Dipsacus fullonum, &c.* LINN.—Uncultivated places, wet hedge banks.—I have not found it north of Derbysh. and Nottinghamsh. Mr. WOOD. B. June—Aug.

pilo'sus. D. Leaves on leaf-stalks, with appendages at the base.

*Curt.–Jacq. austr.* 248–*Blackw.* 124. 2–*H. ox.* vii. 36. 5–*Park.* 984. 4–*Matth.* 663–*Dod.* 735. 3–*Lob. obs.* 487. 2–*Ger. em.* 1168. 3–*Blackw.* 124. 1–*J. B.* iii. 75. 2.

*Shepherd's Rod. Shepherd's Staff. Small Teasel.* Hedges and damp places. [Abbey Lane, Evesham, Worc. Mr. BALLARD.—Lilleshall Abbey, Shropsh.] B. Aug.

SCABIO'SA. *Cal. common*, many-leaved; *proper*, double, superior: *Recept.* naked or chaffy: *Seed* wrapped in the proper cup.

*It is cultivated for the use of the clothiers, who employ the heads with crooked awns to raise the knap upon woollen cloths. For this purpose they are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. The plant flowers in June and July, and the heads are collected in August.

S. Blossoms 4-cleft, equal: stem undivided: branches approaching; leaves spear-egg-shaped. succi'sa.

*Ludw.* 193–*Curt.*–*Fl. dan.* 279–*Fuchs.* 715–*Trag.* 246–*J. B.* iii. 11–*H. ox.* vi. 13. 7–*Blackw.* 142–*Matth.* 623–*Dod.* 124. 1–*Lob. obs.* 295. 2–*Ger. em.* 726–*Park.* 492. 1–*Ger.* 587.

*Stem* and *leaves* rough with hair, generally entire, but those on the stem sometimes serrated. *Flowers* in globular heads. *Proper Cup (the outer cup of* LINN.) 4-cornered, hairy, with 4 shallow clefts, the segments fringed with white hairs. *Nectary (the inner cup of* LINN.) inclosing the germen, crowned with a concave, glandular receptacle, armed with 4 or 5 strong reddish-black bristles. Besides the above apparatus, each floret is furnished with a green spear-shaped floral-leaf, terminated by a white taper bristle. *Bloss.* bluish purple, flesh-coloured, or white; sometimes double.

*Devils-bit Scabious.* Fields and pastures, frequent. P. June—Aug.*

S. Blossoms 4-cleft, radiating: leaves wing-cleft, and jagged: stem rough with strong hairs. arven'sis.

*Curt.* 288–*E. bot.* 659–*Kniph.* 3–*Ludw.* 21–*Sheldr.* 98, &c. *Fl. dan.* 447–*Fuchs.* 716–*Trag.* 242–*J. B.* iii. 2. 1–*Ger.* 583. 4–*Blackw.* 185–*H. ox.* vi. 13. 1–*Ger. em.* 720. 4–*Dod.* 122. 1–*Lob. obs.* 291. 1–*Ger. em.* 719. 1–*Park.* 485. 1.

Sometimes smooth. *Flowers* sometimes white, and all the leaves entire. HALL.—*Proper Cup* 4-cornered, hairy; with 4 small teeth. *Nectary (the inner cup of* LINN.) inclosing the germen; crowned with a concave receptacle, set with shining glands on the inside, and armed with 8 or 12 spear-shaped, serrated, greenish, bristly substances, hairy at the base. *Florets in the circumference* larger, with 4 unequal clefts. *Florets in the centre* regular. *Leaves* rough with hairs and tubercles; spear-shaped, and more or less jagged; some of them wing-cleft. *Bloss.* a little woolly; blue, purple, or white.

*Field Scabious.* Pastures and cornfields. P. July, Aug.†

S. Blossoms 5-cleft, radiating: root-leaves simple, scoloped: stem-leaves compound. columba'ria.

* The dried leaves are used to dye wool yellow or green. LINN.—A strong decoction of it, continued a good while together, is an empirical secret for gonorrhœas.

† Sheep and Goats eat it. Horses and Cows not fond of it. It is slightly astringent, bitter, and saponaceous.

*Kniph.* 12–*Walc.-Ger.* 582. 2–*Column. phytob.* 22–*Clus.* ii. 2. 2–*Dod.* 122. 3–*Lob. obs.* 290. 2–*Ger. em.* 719. 2–*Park.* 484. 1–*J. B.* iii. 4–*Matth.* 970–*Fl. dan.* 314–*H. ox.* vi. 14. 20.

*Feather* with 5 bristles as long as the blossom. LINN. *Root* long, tapering to a point. Outer segments of the outer blossoms much larger than the inner. *Flowers* bluish lilac colour.

*Small scabious.* Dry hilly pastures, frequent. P. June—Sept.*

ERIOCAU'LON. *Cal. common,* a tiled head. *Male* florets in the centre of 1 petal. *Fem.* in the circumference, 2-petaled. *Caps.* 2 cells. *Seeds* 2.

septangula're. E. Stalk with 7 angles, sheathed at the base: leaves sword-shaped.

*E. bot.* 733–*Phil. trans.* lix. *p.* 243–*Penn. hebr.* i. 39, *at p.* 314.

Grows under water. *Stalk* 1 to 1½ foot high, the top rising above the water when in flower. LIGHTF. Fringe of the calyx white. Petals white, with a black spot on the limb. Dr. HOPE.

Dr. Hope sent the plant to Linnæus, who, as he afterwards informed me, said it was the E. *decangulare*; but Dr. Hope in his excellent and accurate description, describes the stalk as having only 7 angles, and sheathed at the base. See Phil. Trans. v. 69. If the fig. of Plukenet, 409, 5, is to be relied upon, the American plant which Linnæus called E. *decangulare*, wants the sheath on the stalk; the proportion of the leaves is also different; and from the character given to it by Linnæus, the stalk has 10 angles, and the male flower 4 stamens, so that I am disposed to believe that the British plant is really a different species, and have named it accordingly.

*Wreathed Piperwort. Nasmythia articulata.* HUDS. Discovered by Mr. ROBERTSON, a pupil of Dr. Hope, in a small lake in the Isle of Skye, in 1768. In 2 or 3 small fresh water lochs about a mile West of Loch-sligachan, in the Isle of Skye, but particularly in a small lake called Loch-na-Caiplich, close to the road side between Sligachan and Drynoch, in such abundance, that the white fibres of the roots are thrown on the edges of the loch as sea weeds on the sea shore. LIGHTF. P. July. HUDS. Sept. LIGHTF. The root is slightly acrimonious when chewed.

SHERAR'DIA. *Bloss.* 1 petal, funnel-shaped, long: *seeds* 2, naked, crowned by the calyx.

* Horses, Sheep, and Goats eat all the species. The *papillo Maturna* feeds upon

S. All the leaves in whirls: flowers terminating. arven'sis.

*Curt.* 315–*Fl. dan.* 439–*Blair* 4. 6–*Pet.* 30. 10–*J. B.* iii. 719. 3–*Barr.* 766, *and* 541. 1.

The whole plant is harsh and rough, from 4 to 7 inches high. *Leaves* 5 or 6 in a whirl. *Fl. leaves* terminating, compressed, deeply divided into 8 parts, and inclosing 3 or 4 florets. *Calyx* with 4, 5, or 6 teeth. *Bloss.* blue or purple: tube very long, segments egg-shaped.

*Little Field Madder. Little Spur wort.* Corn and fallow fields, common. A. May—Sept.

ASPE'RULA. *Bloss.* 1 petal, funnel-shaped: *seeds* 2, globular, like cork.

A. Leaves 8 in a whirl, spear-shaped: flowers in bundles, on fruit-stalks. odora'ta.

*Dicks. h. s.*–*E. bot.* 755–*Ludw.* 146–*Curt.* 249–*Sheldr.* 29–*Kniph.* 1–*Clus.* ii. 175. 2–*Dod.* 355. 2–*Lob. obs.* 464. 2–*Ger. em.* 1124. 1–*Park.* 563. 1–*H. ox.* ix. 22. *row* 1, *fig. the* 4*th.*–*Fl. dan.* 562–*Ger.* 966–*Trag.* 496–*Pet.* 30. 9–*Blackw.* 60–*J. B.* iii. 718. 3–*Mill.* 55. 2.

*Fruit* covered with stiff hooked hairs. Mr. WOODWARD. *Panicle* with 3 divisions. *Leaves* varying, from 5 to 9 in a whirl. *Flowers* of a beautiful snowy white, and, when a little magnified, appear sprinkled with shining, frosted particles. *Cal.* not very evidently toothed. From 5 to 10 inches high.*

*Sweet Woodroof. Woodrow. Woodrowell. Woodruff. Woodderowffe,* as spelt in some old authors. The repetition of the double letters affords great amusement to children learning to spell. [Woods in Herts. Mr. WOODWARD.—Near Armingdale-wood by Norwich. Mr. CROWE.—About Chepstow, Monmouthshire, plentiful in the hedges. Mr. PITT.—Woods and shady places. At the Leasowes, near Halesowen.] P. May.†

A. Leaves 4 in a whirl, strap-shaped: upper leaves opposite: stem upright: flowers 4-cleft. cynan'chica.

*E. bot.* 33–*Kniph.* 11–*J. B.* iii. 723. 2–*Col. ecphr.* 297. 1–*Pet.* 30. 12–*H. ox.* ix. 22. 9.

* Dr. Smith remarks the fresh herb has no smell; but as soon as it begins to dry it exhales a pleasant and lasting fragrance like that of new hay, verging towards the flavour of bitter almonds.

† The scent of it is said to drive away Ticks and other insects. LINN. The strongly aromatic flowers infused in water, far excel in flavour all the teas imported from China. WILLICH.—It gives a grateful flavour to wine. Cows, Horses, Sheep, and Goats eat it.

*Leaves* frequently pointing 1 way, sometimes 5 in a whirl. Mr. Woodward. About 5 or 6 inches high, the lower part trailing. *Leaves* unequal in size. *Bloss.* pale rose red, streaked with deeper red lines.

*Squinancy-wort. Squinancy Woodroof.* Limestone hills, and high chalkey soils. [Swaffham, Norfolk. Newmarket Heath. Dunstable Hills. Mr. Woodward. Salisbury Plain.]

P. June, July.

## GA'LIUM. *Bloss.* 1 petal, bell-shaped, short: *seeds* 2, nearly globular, beneath; like cork.

### (1) *Seeds smooth.*

crucia'tum. G. Stem hairy, only branched at the base: leaves hairy, egg-shaped, 4 in a whirl: fruit-stalks with 2 or 3 leaves.

*E. bot.* 143–*Blackw.* 76–*Walc.–Dod.* 357. 1–*Gars.* 235–*Lob. obs.* 467. 2–*Ger. em.* 1123. 1–*Ger.* 965–*Park.* 566–*H. ox.* ix. 21. *row* 2. 1. *Cruciata–J. B.* iii. 717 *and* 2.

The structure of the flower is liable to many variations. They are generally hermaphrodite, but sometimes male flowers intervene. *Bloss.* segments from 3 to 5, though mostly 4. *Stamens* 3 to 5, always corresponding in number with the segments of the blossom. *Seeds* 1 or 2, the second frequently proving abortive. In one hermaphrodite flower Mr. Woodward found 5 perfect stamens, and 4 others shorter, but containing pollen; the Pistil had 4 clefts, the summit of the 4th only being imperfect. *Stem* branched at bottom, undivided upwards. *Bunches* from the bosom of the leaves, divided and subdivided. Bloss. yellow. When the seeds ripen, the leaves bend inwards and cover them so effectually, that birds cannot get at them without tearing away the leaves.

Valantia *cruciata.* Linn. Galium *cruciata.* Scop. *Cross-wort. Mugwort. Mugweed.* Hedge banks, and other rough places; often in meadows amongst mowing grass. [Plentiful from Newcastle to within a few miles of Worcester, but further South it is scarce. Mr. Baker.] P. May—July.

palus'tre. G. Leaves unequal, strap spear-shaped, smooth, entire, blunt, 4, 5, or 6 in a whirl: stems rough, spreading, branched upwards.

*Fl. dan.* 423–*Pet.* 50. 5–*Ger.* 967.

From 1 to 2 feet high. *Leaves* scarcely rough to the touch. *Bloss.* white, numerous, on lateral and terminating fruit-stalks; forming a sort of umbel cloven into 3 parts, and again subdivided.

Var. 2. Leaves strap-shaped, 4 in a whirl.

Resembles the preceding but smaller and hardly half so high. Found on dry ground in Dudley Wood. The leaves being blunt and quite entire, sufficiently distinguish this from the *G. montanum* and *G. procumbens*.

*White Ladies Bed-straw*. Banks of rivulets and pools, moist meadows, wet commons. P. July.

G. Leave strap-shaped, smooth, about 4 in a whirl: stem feeble, rough: leaves reflected. montanum.

PLATE XXVIII.

Of a middle size, between the G. mollûginem and G. Glaucum. *Stem leaves* five in a whirl, bent back. *Branch leaves* four in a whirl. *Corymbus* three cleft; white, purplish on the outside before they expand. *Anthers* brown. LINN. About eight inches high, not at all branched, except sending off fruit-stalks from the whirls of leaves. *Stems* feeble, rough. *Leaves* 5 in a whirl; turned back, some so much so as to point downwards; serrated with hairs, pointed with a hair, not with a rigid bristle or prickle. *Bloss.* purple on the outside whilst young. *Anthers* red brown. *Pistil* very short, cloven down to the base. The plant now before me accords with the Linnæan character, and also with the additional observations, but not with the Synon. of Haller, Ruppius, or Pollich. So that it may prove to be a new species.

On high, but boggy, parts of Handsworth Heath. July.

G. Leaves spear egg-shaped, 4, 5 or 6 in a whirl; dagger-pointed, smooth, expanding: stem prostrate, smooth. procumbens.

*E. bot.* 815.—*Pet.* 30. 6.

Stems and branches prostrate, smooth, matted together and spreading on the ground. Flowering stem from 2 to 6 inches high. *Stems* twisted, cylindrical, but with 4 rounded corners. *Leaves* 4 in a whirl at the bottom, 5 about the middle, and 6 at the top of the plant, unequal in size, edged with fine prickle-shaped glands; keel smooth. *Flowers* in umbels, lateral and terminating, 1, 2, or 3 from the whirls at the joints of the stem. *Bloss.* white, sometimes purplish on the outside. *Anthers* yellow. *Pistil* nearly as long as the Stamens, divided down to the base. *Seeds* not rough but with a granulated surface.

*G. montium*. Gmelin. Syst. veg. *G. montanum*. Huds. *G. Saxatile*. E. bot. *Trailing Goose-grass*. Heaths and mountains. HUDS.—Also in marshy places. RAY.—I suspect, however, that Ray's species comprehends also the *G. Mollugo in its dwarf state*, which see *variety* 2. ST. [On Heaths. Mr. SWAYNE. On Dudley Wood, 1 mile S. W. of Dudley; and on Handsworth Heath.] July.

uligino'sum. G. Leaves in sixes, spear-shaped, dagger-pointed, stiff, bowed backwards; serrated with prickles: blossoms larger than the fruit.

*Kniph.* 10–*Barr.* 82–*J. B.* iii. 216. 2.

*Leaves* free from hairs, ending in a thornlike point. *Seeds* smooth. LINN. *Leaves* sometimes 7 or 8 in a whirl. HUDS. *Blost.* white, with a tinge of rose-colour. HALL. The leaves are disposed to turn back and point downwards, as in the G. montanum.

Var. 2. Upper leaves 6, lower ones 4 in a whirl; not dagger-pointed. All the leaves strap-shaped, but not ending in a thornlike point. *Flowers* in a 3-cleft umbel, the middle spoke but half the length of the other two. *Anthers* purplish red.

Found growing with G. palustre, but does not at all agree with that, and probably will prove to be a distinct species.

The prickles at the edge of the leaves and the sharp dagger-like point, readily distinguish the first of these from the *G. montanum*, and the smooth stem separates it both from the *montanum* as well as from the *palustre*.

*Marsh Goose-grass.* Meadows, pastures, and wet heaths. On the lower bog Chisselhurst. RAY. P. July.

pusil'lum. G. Leaves 8 in a whirl, rough with hairs, strap-shaped, tapering to a point: whirls crowded at the base of the stem; fruit-stalks forked.

*E. bot.* 74.

*Stems* numerous, angular, a finger's length. *Leaves* 6 or 8 in a whirl, strap-shaped, or between spear and strap-shaped, sharp, rough, as are also the stems, with expanding hairs. *Branches* few, alternate. *Whirls* of leaves often so thickly set as partly to tile the stems. *Panicle* thin set, mostly terminating, upon twice forked fruit-stalks. LINN. *Leaves* 7 or 8 in a whirl; tiling the lower part of the stem. *Flowers* white. *Seeds* small, smooth. HUDS. Angles of the *stem*, and edges and mid-ribs of the *leaves* rough with expanding hairs. *Leaves* rarely up to 8. Mr. WOODWARD. Approaches near to the *G. uliginosum*, but may be known from that by the blossom not being pinkey on the outside, by the fruit-stalks being either smooth or only hairy and not rough and harsh with prickles, but notwithstanding these differences I doubt whether the two plants which our botanists have called *pusillum* and *uliginosum* be really distinct species.

*Least Goose-grass.* Limestone Hills, near Kendal, Westmoreland. Near the bath at Matlock. Dr. SMITH. P. July, Aug.

erect'um. G. Leaves mostly 8 in a whirl; spear-shaped, with fine prickly serratures: panicles with 3 divisions: stem rough, flaccid. HUDS.

*Jacq. austr.* 80.

*Stems* rather upright; swelled at the joints; 4-cornered, the edges roughish; somewhat hairy, branched: flowering branches opposite. *Leaves* 8, sometimes 6 in a whirl; sitting, spear-shaped, and between strap and spear-shaped; bare. The terminating *panicle* divided into 3. *Flowers* white, 4-clefted. *Seeds* small, smooth. Huds. *Leaves* in whirls, from 4 to 5 inches distant from each other; bent back; serratures directed towards the point of the leaf, and not bowed back as in the rest of the rough-leaved species. My specimen agrees in every respect except the stem, which is smooth. Sr. Jacq. had described the leaves and stem as sleek and shining, and the former as not serrated with prickles, but he afterwards corrects this description. See Animadversiones, at the beginning of the 3d vol. of his Hort. Vindobon. *G. austriacus.* Jacq.

*Upright Goose-grass.* Meadows and wet pastures. [Heydon Common, Norfolk. Mr. Bryant.] P. June, July.

G. Leaves 8 in a whirl, egg-strap-shaped, dagger-pointed; somewhat serrated, greatly expanded: stem feeble: branches greatly expanding. mollu'go.

*Fl. dan.* 455–*Ger.* 967. 4–*Fuchs.* 281–*Lob. ic.* 802. 2–*J. B.* iii. 716. 1–*Lob. obs.* 468. 1–*Ger. em.* 1118. 2–*Pet.* 30. 4–*Matth.* 921.

*Stem* 4-edged, branched; thickest just above the joints, nearly smooth. *Leaves* from 6 to 8 in a whirl; unequal in size, oblong-egg-shaped, a little hairy on the back and at the edges, but not rough to the touch. *Flowers* very numerous, on fruit-stalks rising from the whirls of leaves; generally 2 long and 2 short flowering branches from each whirl. *Bloss.* white. *Seeds* 2, smooth; 1 generally much larger than the other. The whole plant smooth to the touch. The Linnæan character mentions the leaves being "somewhat serrated," but with us they have no such appearance, the edges being quite smooth and entire, which circumstance at once distinguishes it from the *G. erectum* of Mr. Hudson. In a cultivated state it grows quite upright, strong, and 3 or 4 feet high.

*Madder Goose-grass. White Ladies Bed Straw. Wild Madder. Great Bastard Madder.* Hedges, roughs, and heaths, frequent. P. June. Aug.

Var. 1. Leaves very entire, bent back; seldom exceeding 3 or 4 inches in height. Scop. *Mollugo montana minor, Gallio alba similis.* R. Syn. 224. seems at least to comprehend this variety as well as the G. *procumbens.* Malvern Hills. Sr.

G. Male flowers 3-cleft, on pedicles springing from the fruit-stalks of the hermaphrodite flowers. spu'rium.

*Vaill.* 4. 3.

*Fruit-stalks* bearing 3 flowers curved downwards. HALL. *Leaves* from 6 to 8; upper surface smooth, keel rough. *Fruit* roughish, beset with a number of minute tubercles, but which do not end in hairs. POLLICH. *Umbels* on fruit-stalks, generally 2 to a whirl, opposite, dividing into 3 branches; not leafy at the base, each bearing one seed. ST. *Pedicles* sometimes with one leaf at the base. *Florets* sometimes all three, not unfrequently 2, though commonly only 1 hermaphrodite. *Stems* upright, a foot high, or more; not branched. The whole plant very harsh and rough. *Leaves* serrated with strong prickles pointing backwards.

*Valantia Aparine.* Linn. *G. spurium.* Huds. *G. tricorne.* Bot. arr. ed. ii. *Three-horned Corn Goose-grass.* Cornfields. Monk Tryston, between Ferrybridge and Selby, on a limestone soil, plentiful, and near Weatherby, Yorkshire. Mr. WOODWARD. Cornfields, Puckle church, Gloucestersh. Mr. SWAYNE.

A. June, July.

sca'brum. G. Leaves mostly 8 in a whirl, rough, dagger-pointed: (JACQ.) furrowed: stem and leaves pubescent. STOKES.

*Jacq. austr.* 422.

*Stems* upright, closely beset with very short soft hairs. *Leaves* sometimes 7, those of the branches fewer, beset with soft hairs. *Fruit* smooth. *Stems* above, smooth and shining. JACQ. but in his figure it is represented as beset with hairs, as are my specimens, even to the last subdivisions. No appearance of prickles on the stem or leaves. *Flowering branches* opposite, one always shorter than the other. *Fruit-stalks* smooth. ST.

*Downy-stalk Goose-grass.* [Hedgerow in a marley soil on the side of Red-House-lane, near Worcester. ST.] P. Aug.

ve'rum. G. Leaves 8 in a whirl, strap-shaped, furrowed; flowering branches short.

*E. bot.* 660–*Fl. dan.* 1146–*Kniph.* 6–*Ludw.* 39–*Mill.* 139. 1–*Scheldr.* 61–*Fuchs.* 196–*J. B.* iii. 720. 1–*Trag.* 492–*Dod.* 355. 1–*Lob. obs.* 467. 3–*Ger. em.* 1126. 1–*Park.* 564. 1–*H. ox.* ix. 21. *row* 2. 1–*Gallium.*–*Matth.* 1131–*Ger.* 967. 1–*Blackw.* 435–*Pet.* 30. 8.

*Stem* with large joints; cylindrical, scored, a little woolly. *Leaves* smooth, rolled back at the edges; from 5 to 9 in a whirl, but generally 8 upon the principal stem. *Bloss.* segments greatly expanded. *Styles* cloven more than half way down. *Bloss.* yellow.

*Yellow Ladies Bed Straw. Cheese Rening. Petty Muguet. Yellow Goose-grass.* Sides of fields and roads, frequent. When within the influence of the sea air it grows extremely small.

P. July—Oct.*

* The flowers will coagulate boiling milk. The French prescribe them in Hysteric and Epileptic cases. Boiled in alum water they tinge wool

G. Leaves about 6 in a whirl, spear-shaped, pointed, edged with prickles, reflected: stems wide-spreading, rough with prickles pointing downwards. (Hudson.) anglicum.

*E. bot.* 384–*Kniph.* 10–*Ray Syn.* 9. 1.

*Stems* a foot long, feeble, 4-sided, rough when stroked upwards. Leaves 7 in a whirl, spear-shaped, dagger-pointed, rough, especially at the edge. Flowering branches opposite, short. *Fruitst.* smooth, 2 or 3-flowered. LINN. *Stems* 1 to 1½ foot high, spreading, 4-cornered, branched; *flowering branches* opposite. *Leaves* bare, (except at the edge) sometimes 7 in a whirl. HUDS. *Leaves*, the prickly hairs at the edge pointing forwards, sometimes a few scattered on the surface; those *of the branches* generally in pairs as in Ray's figure. *Branches* rough. *Fruit-stalks* smooth, generally dividing into 3, one of them supporting 2 flowers. ST. *Bloss.* greenish yellow, smaller than the fruit, which though less smooth than that of the other species in this subdivision, is still not hispid. Linn. refers the above figure of Ray to his G. parisiense, and also cites Tourn. inst. 604 as another synonym, but Tournefort tells us his plant had a dark purple blossom, it therefore cannot be the same as our's with a yellow blossom. We therefore rather adopt Mr. Hudson's name and character, leaving the *parisiense* to Tournefort's plant. Mr. Relhan is now satisfied that the plant found on Chippenham Park wall, and in Fl. Cantab. called parisiense, is no other than the anglicum of Hudson.

*Aparine minima. Ray Syn.* 225. *Small Goose-grass.* Tournefort's plant with a dark purple blossom cannot belong to this. As both Hudson and Linné refer to the fig. of Ray, there can be no doubt but they both speak of the same plant. At Hackney, on a wall. *H. ox.* III. *p.* 333. RAY.—Sandy ground between Dartford and Northfleet. On a wall at Farmingham, Kent. HUDS.—[On the walls of Binham church, Norf. Mr. CROWE.] A. June, July.

(2) *Seeds hispid.*

G. Leaves 4 in a whirl, spear-shaped, smooth, 3-fibred: stem upright. boreale.

*Dicks. h. s.–Fl. dan.* 1024–*E. bot.* 105–*Kniph.* 5.–*Pet.* 30. 7 –*J. B.* iii. 716. 3.

*Bloss.* of a beautiful white, but when dried turning to a dirty yellow. Mr. GRIFFITH. The 3 strongly marked veins or fibres on the leaves afford a strong character. *Leaves* egg-spear-

wool yellow. The roots dye a very fine red, not inferior to madder, and are used for this purpose in the island of Jura. *Pennant*, 1772, p. 214. Sheep and goats eat it. Horses and swine refuse it. Cows are not fond of it.—This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea: hollow within, and covered with a purplish skin.

shaped, 4 in a whirl, but only 2, or 3 at the base of the fruit-stalks. *Bloss.* white, very numerous.

*Cross-wort Madder. Cross-leaved Goose-grass.* Mountains in Westmoreland and Wales. [Near Pooley Bridge, by Ulswater, Cumberland. Near the ferry at Winander Meer. Mr. Woodw.—Banks of the River near Down. Mr. Brown.—Rocks about Strid, near Bolton Abbey. Mr. Wood.—Trigiwulcan rocks; also about half a mile from Llanberris, in the gravel by the side of the second Rivulet in the way to Llanrwst. Mr. Griffith.—Near the lower end of Winandermere, opposite Fell Foot. Mr. Jackson.] P. July, Aug.*

Apari'ne. G. Leaves 8 in a whirl, spear-shaped; keel rough with prickles pointing backwards: joints woolly.

*Curt.-Woodv.* 269-*Fl. dan.* 495-*E. bot.* 816-*Sheldr.* 13-*Vaill.* 4. 4-*Dod.* 353-*Lob. obs.* 464. 3. *Aparine-Ger.* 963. 1-*Ger. em.* 1122-*Park.* 567-*H. ox.* ix. 22. *row* 2. 1, *Aparine-Pet.* 30. 11-*Blackw.* 39-*Matth.* 807-*Fuchs.* 50-*J. B.* iii. 713-*Trag.* 494-*Walc.*

*Stem* 4-cornered, the angles set with prickles pointing backwards. *Joints* woolly at the base. *Leaves* 8 or 10 in a whirl, between strap and spear-shaped, rough above, smooth underneath, the edges and the keel set with prickles pointing backwards. *Branches* opposite. *Leaves* from 4 to 7, or more in a whirl. *Bloss* white.

*Catchweed. Goose-grass. Cleavers. Clivers. Cleavers Goose-grass.* Hedges, frequent. A. May, June.†

RU'BIA. *Bloss.* 1 petal, bell-shaped: *berry* 2-seeded.

tincto'rum. R. Leaves annual: stem prickly.

Var. 1. *Anglica.* Leaves smooth, shining, deciduous: blossom with 5 divisions.

*E. bot.* 851-*H. ox.* ix. 21. 2-*Pet.* 30. 3.

This plant and its present places of growth are mentioned by Ray and by Miller, but it does not seem to accord exactly with any of the Linnæan species, neither can it be Haller's 708. Mr.

* The roots afford a red dye for woollens.

† The branches are used by the Swedes instead of a sol to strain milk. Young geese are very fond of them. The seeds may be used instead of coffee. The plant is eaten by horses, cows, sheep and goats. Swine refuse it. Linn.—The expressed juice of the stem and leaves, taken to the amount of 4 ounces, night and morning, is very efficacious in removing many of those cutaneous eruptions which are called, although improperly, Scorbutic. It must be continued for several weeks. The *Sphinx Stellatarum*, and the *Sphinx Euphorbiæ*, feed upon the different species of Galium.

Hudson referred it to the R. peregrina of Linn. but in that the leaves are perennial. It is certainly embraced by the specific character of the R. tinctorum, but it differs from that in several respects, as appears from an accurate drawing and description obligingly furnished at my request by the Rev. Mr. Swayne, who observes that the flowers have no calyx, that the blossoms have constantly 5 divisions, and 5 stamens. He further remarks that the *root* is perennial, branched, penetrating deeply into the fissures of the rocks; its outer bark red. *Stems* several, climbing, 4-cornered, the angles set with prickles pointing backwards. *Leaves* spear-shaped, somewhat waved at the edge, even and shining on the upper surface, prickly at the edges and along the mid-rib on the under side, from 3 to 6 in a whirl, but mostly 5. The plant in climbing up the rocks and through the shrubs supports itself by means of the prickles on the angles of the stem and under the margins and midribs of the leaves. It seldom produces more than 1 perfect seed, perhaps there are not more than 2 or 3 instances on any one plant in which both the seeds attain perfection. The whole superficies of the plant does not die in the winter, but some of the old stem remains alive, which puts forth fresh shoots in the spring. The leaves which first appear in the spring are rather elliptical, as represented in the figure of Petiver. Mr. SWAYNE. The uncertain number of leaves in a whirl will hardly permit a specific difference to be founded upon that circumstance, but if the R. tinctorum has 4 stamens and a 4-cleft petal, whilst this has always 5, the distinction will be sufficiently obvious. *Flowers* dirty yellow.

*Rubia peregrina.* Huds. *R. sylvestris aspera.* Ray Syn. and Bot. arr. ed. ii. *R. peregrina,* E. bot. *Wild Madder.* Hedges in Devonshire, near Exmouth. [In the Isle of Wight. St. Wood opposite St. Vincent's Rocks, Bristol. Mr. SWAYNE.]

P. June, July.

## EXACUM. *Bloss.* 4-cleft, tube globular: *Cal.* 4 leaves, or with 4 divisions: *Caps.* 2-furrowed, 2-celled, many seeded, opening at the top.

E. Blossoms with 4 clefts: on long fruit-stalks: leaves sit-filiforme. ting: Stem forked.

*E. bot.* 235.—*Fl. dan.* 321.—*Vaill.* 6. 3.

About 3 or 4 inches high. *Bloss.* yellow, generally closed. Dr. Smith first removed this plant from the genus Gentiana, and very properly, for it always stood as an exception to that. From the size of a pin to 4 inches high. In a sunny day the flower opens fully and is cruciform. It has nothing to do with the Gentians either in taste or in habit. The leaves are so slender and sit so close to the stem, that they are only discernible on

nice inspection. Habitat; gravelly places inundated in winter. Mr. STACKHOUSE.

*Least Gentian. Marsh Centory.* Marshes in Cornwall, near St. Ives. [In boggy places in Dorsetshire. Dr. PULTENEY. Also not unfrequent in Devonshire in similar situations. Sand banks between St. Blazeybridge and the Par sand, Cornw. On the bogs between Bodmin and Lestwithiel. Mr. STACKHOUSE.]

A. July.

LITTORELLA. M. and F. flowers on the same plant.

Male. *Bloss.* 4-cleft: *cal.* 4-leaved: *stam.* long.

Fem. *Bloss.* mostly 4-cleft: *cal.* none: *style* long; *seed* a nut.

lacus'tris. L.

*E. bot.* 468–*Fl. dan.* 170–*Pluk.* 35. 2–*H. ox.* viii. 9. 30–*Giseck.* 21–*Dill. musc.* 81; *but the substances on the leaves marked* (*a. a.*) *are thought to be Polypes.*

Its flower is that of *Plantago*, but the Stam. and Pistils *being found in different flowers*, and its *fruit* distinguish it from that genus. The *male flower* on a stalk, taller than the female. The *female flower* sitting at the root. *Style* often as long as the stalk of the male flower. LINN. *Fertile flowers* 2, sometimes 3, at the base of the stalk of the barren flower. WOODWARD. *Leaves* rush-like, flattish, convex underneath. *Male* flower terminating. RELH. This plant is truly amphibious, growing in most of our lakes several feet under water, but it never flowers except when on shore, or in water about one inch in depth. Mr. GRIFFITH.—It is frequent near the margins of many of our Highland lakes, but being generally immersed, seldom flowers. The elongated stamens, which from their slender make hang down, and the style which shooting upwards meets them half way, afford a beautiful illustration of the sexual doctrine. Mr. BROWN.

*Plantain Shoreweed.* Marshy places in a sandy soil. [At Hainford. Mr. CROWE.—On the margins of Oulton Broad by Lowestoft, plentifully. Mr. WOODWARD.—On the bank at the South end of Balla Lake, Merioneth. Mr. WOODWARD.—In a watery lane near Penzance, by Mr. Wenman. Mr. STACKHOUSE.]

P. July—Aug.

PLANTA'GO. *Bloss.* 4-cleft, permanent, the border broken back: *cal.* 4-cleft: *stam.* extremely long: *caps.* 2-celled, cut round, superior.

ma'jor. P. Leaves egg-shaped, smooth: stalk cylindrical: spike tiled with florets.

*Curt.–Fl. dans* 461–*Blackw.* 35–*Woodv.* 14–*Matth.* 479–*Dod.* 107. 1–*Lob. obs.* 162. 2–*Park.* 493. 2 & 1–*H. ox.* viii. 15. 2–*Pet.* ii. 4. 1–*Trag.* 225. 1–*Fuchs.* 38–*J. B.* iii. 502–*Ger.* 338.

Stalk nearly 2-edged. Mr. HOLLEFEAR. Leaves with 7 ribs. Mr. WOODWARD. *Stalk* from 9 to 18 inches high, the flowering spike about equal in length to the naked part; rather rough with short hairs. Leaves with 7 or 9 ribs.

*Way-bread. Great Plantain.* Road sides, very common. P. June. Aug.

Var. 1 (β Linn.) Leaves three-ribbed.

*Tab. ic.* 731–*Ger.* 339–*J. B.* iii. 505. 3.

Much smaller than the preceding; leaves rough. Stalk not more than 1½ inch high; spike small in proportion.

[About Shirehampton and Kingsweston, Bristol.]

Var. 2. *toothed.* PETIVER. Leaves with large teeth towards the base. ST.

*Pet.* 4. 2–*Park.* 494. 5. *d.*

Var. 3. Spike leafy. Flower-leaves disposed in a pyramidal or rose-like form.

*Ger.* 340. 5–*H. ox.* viii. 15. 3. *b. c.*–*Park.* 494. 5. *b.*–*J. B.* iii. 503. 1–*Ger. em.* 420. 4, *upper branch*–*Pet.* 4. 4, *upper branch.*

*Park.* 494. 5. *c.*–*H. ox.* viii. 15. 3. *a.*–*J. B.* iii. 503. 1–*Pet.* 4. 4, *lower branch.*

The *rose-like* and the *pyramidal* often rise from the same root. On Dudley Lime rocks. Aug.

Var. 4. *panicled.* Stalk branching into a panicle. ST.

*Dod.* 107. 2–*Lob. obs.* 162. 4–*Ger. em.* 420. 6–*J. B.* iii. 503. 2–*Park.* 494. 5. *a.*–*Pet.* 4. 5–*H. ox.* viii. 15. 4.

[Bedingham, near Bungay, Suffolk. Mr. STONE.]*

P. Leaves egg-spear-shaped; pubescent: spike and stalk me'dia. cylindrical.

*Curt.* 252–*Fl. dan.* 581–*Walc. Cam. epit.* 262–*Fuch.* 39–*J. B.* iii. 504. 1–*Matth.* 480–*Clus.* ii. 109. 1–*Dod.* 107. 4–*Lob. obs.* 162. 3–*Ger. em.* 419. 2–*J. B.* iii. 504. 2–*H. ox.* viii. 15. 6–*Pet.* 4. 3–*Ger.* 338. 2–*Trag.* 226. 1–*Park.* 493. 3.

* Sheep, Goats, and Swine eat it. Cows and horses refuse it. The common people apply the green leaves to cuts.

*Stalk* from 5 to 10 inches high; cylindrical. Flowering *spike* shorter than the naked part of the stalk. *Leaves* mostly 5-ribbed, often toothed, spear-egg-shaped, or quite egg-shaped; sometimes variegated with pale yellow stripes.

*Lambs Lettuce. Hoary Plantain.* Road sides, and pastures, mostly in chalky or marly soil. [The variegated kind at Hawford Bridge, near Worcester. ST.] P. June—Aug.

lanceola'ta. P. Leaves spear-shaped: spike nearly egg-shaped, naked: stalk angular.

*E. bot.* 507–*Curt.* ii. 15–*Fl. dan.* 437–*Blackw.* 14–*Walc.*–*Dod.* 107. 3–*Lob. obs.* 163. 1–*Ger. em.* 422. 1–*Park.* 496. 1–*H. ox.* viii. 15. 9–*Pet.* 4. 6–*J. B.* iii. 505. 1–*Trag.* 225. 2–*Ger.* 341. 1–*Matth.* 481–*Anders.*

*Stalk* about a foot high. Root as if bitten off. *Spike* 1 inch long, or not so much. *Leaves* strap-spear-shaped, ribs 5 to 7; often toothed at the base, but in maritime situations toothed all along the edges. *Anthers* white. The stalks continue to grow after the flowering is over, and sometimes shoot out to the length of 2 feet or more.

*Ribwort Plantain. Ribgrass.* Pastures very common. P. June.

Var. 2. Leaves narrow, 3-ribbed. (Dr. STOKES.)

*Ger. prov.* 12–*Ger.* 339. 4–*J. B.* iii. 505. 2–*Park.* 496. 3–*Pet.* 4. 7.

Mountainous and barren places.

Var. 3. *foliosa.* Summit of the stalk surrounded with leaves longer than the spike. Mr. WOODWARD.

*Ger.* 341. 2–*J. B.* iii. 506. 1–*H. ox.* viii. 15. 10.

Near Leeds. ST.—Ripton, Huntingdonshire. Mr. WOODW.

Var. 4. Spike with 2 or 3 heads. LEERS.

*Clus.* ii. 110–*J. B.* iii. 506. 2–*H. ox.* viii. 16. 10–*Pet.* 4. 8.

Isle of Thanet. RAY.*

marit'ima. P. Leaves strap-shaped, mostly entire; woolly at the base: spike and stalk cylindrical.

* Linnæus says it is eaten by Horses, Sheep, and Goats, and that Cows refuse it; but Haller attributes the richness of the milk, in the famous alpine dairies, to this plant and to the Alchemilla vulgaris.—The total absence of this plant in marshy lands, is a certain criterion of the wretched quality thereof. In proportion as such soils are meliorated by draining, this plant will flourish and abound. It is often sown and cultivated for pasturage, but does not answer the purpose well without a mixture of clover or other grasses. Sheep will eat it either green or dried, provided it be well gotten. Mr. DICKENSON.—When it grows detached from other plants, as it frequently does by the sides of foot-paths, I have never seen cattle touch it, but they certainly do eat it mixed with other herbage.

*Fl. dan.* 243–*E. bot.* 175–*Dod.* 108–*Lob. obs.* 163. 2–*Ger. em.* 423. 3–*Park.* 498. 1–*H. ox.* viii. 17. 34–*Ger.* 343. 3. *J. B.* iii. 511. 3–*Ger. em.* 425. 1.

*Root* wood-like, inversely conical at the crown. *Stalk* 5 or 6 inches high. *Spike* 1 to 1½ inch long, bent at a right angle before flowering. *Leaves* fleshy, convex on the lower, channelled on the upper surface, generally entire, but sometimes with a few minute teeth. *Floral-leaves* keeled. *Bloss.* tube woolly. *Anthers* yellow.

*Sea Plantain.* Sea coast. [Also near Barnard Castle, 35 miles from the sea. Mr. Robson.] P. June, July.

Var. 2. *narrow-leaved.* Leaves thread-shaped.

A much smaller plant than the preceding, and flowering earlier. I found it in the Isle of Wight, and going out of blossom the beginning of June. *Leaves* about 2 inches long. *Stalk* cylindrical, slender, not scored, 4 inches high. *Spike* 1 inch long, cylindrical, not closely crowded with florets.

Var. 3. *flat-leaved.* Leaves flat, ribbed, very sparingly toothed.

*J. B. hist.* iii. 506. 2, *well represents the leaves, but the spikes are too short.*

*Leaves* 5 inches long, flat, 5-ribbed. *Stalk* about 5 inches high, cylindrical. *Spike* 2 inches long, cylindrical, bent at a right angle before flowering. *Fl. leaves* with a midrib, but not keeled.

[Near the Bristol channel. Mr. Swayne. Sea coast, Yarmouth. Mr. Woodward.]

Var. 4. *mountain.* Huds. var. γ.

*J. B. hist.* iii. 506. 2.

Smaller than either of the above varieties. The leaves from 2 to 3 inches high, one eighth of an inch wide.

[On Cwn Idwell. June, 1798. Mr. Griffith.]

P. Leaves strap-shaped, toothed: stalk cylindrical. *fl. suec.* coro'nopus.
—Leaves between winged and toothed. *hort. cliff.*

*Fl. dan.* 272–*Pet.* 4. 10–*Fuchs.* 449–*Trag.* 99–*J. B.* iii. 509–*Blackw.* 460–*Matth.* 493–*Dod.* 109. 1–*Lob. obs.* 239. 2–*Ger.* 427. 1–*Park.* 502. 1–*H. ox.* viii. 17. 31.

*Spike* truly nodding before it flowers. Linn. *Leaves* wing-cleft, the segments very unequal; lying on the ground in form of a star. *Stalk* from 4 to 7 inches high. *Spike* 1½ to 2 inches long; cylindrical. *Calyx*, segments lapping over each other, deeply divided, fringed at the outer edge. *Anthers* terminated by a small spear-shaped transparent membrane.

This plant varies very much both in the size and clefts of the

leaves, in the height of the stalk, and the length of the spike; but the membrane terminating the anthers is constant.

*Star of the earth. Hartshorn. Buckthorn Plantain.* Gravelly soil. Sea shore, frequent. A. June—Aug.

Var. 2. Leaves more deeply divided, and more hairy. Heads short, and lax. BLACKST. p. 77.

Between Dartford and Greenhithe. [Near the Bristol Channel. Mr. SWAYNE.—Dawlish, Devonshire.]

Var. 3. Leaves strap-shaped, very entire; hairy. Spike roundish. HUDS.

Very much resembles *Lob. ic.* 439. RAY; which is P. *subulata*. LINN.

Dry meadows on the sea coast. HUDS.—Banks of the river near Yarmouth, and near Sheerness, in Sheppey. RAY.

Var. 4. Leaves between serrated and toothed. ST.

*Pet.* 4. 9–*Pluk.* 103. 5.

[Found on the north coast of Cornw. by Mr. WATT.]

In its smaller state, and with spikes of flowers scarcely longer than broad, (var. 1.) it has been very generally supposed to be the Pl. *Læflingii*, but that plant, according to Læfling's account, has smooth floral-leaves, whereas in ours they are always hairy, especially on the keel. The root-leaves, he says, are never wing-cleft, but in such of ours whose spike most resembles the other, they are almost always so.

CENTUN'CULUS. *Cal.* 4-cleft: *bloss.* 4-cleft, expanding: *stam.* short: *caps.* 1-celled, cut round.

min'imus. C.

*Dicks. h. s.–E. bot.* 198–*Curt.* 185–*Fl. dan.* 177–*Vail.* 4. 2–*Mich.* 18. 2.

*Bloss.* minute; white; in the bosom of the leaves. LINN. Continuing and adhering like a veil to the point of the capsule, never expanding but when the sun shines strongly upon them. CURT. *Plant* very small, branched, forked. *Leaves* sometimes opposite towards the bottom; egg-shaped, pointed, smooth, fleshy. *Flowers* solitary. ROTH. Plant hardly an inch high.

*Bastard Pimpernel. Pimpernel Chaffweed.* Moist sandy ground, and on commons. [Salt marshes and meadows near the sea side. Newton Cartmel, common. Mr. HALL.—Gamlingay Bogs. Mr. RELHAN.—Blithfield, Staffordsh. Hon. Mr. BAGOT.—Links of St. Andrews. Mr. BROWN.] A. June.

SANGUISOR'BA. *Bloss.* 4-cleft: *germen* betwixt the calyx and the blossom.

officina'lis.

S. Spikes egg-shaped.

*Kniph.* 4–*Ludw.* 94–*Fl. dan.* 97–*Fuchs.* 788–*J. B.* iii. 120 –*Ger.* 889. 2–*Pet.* 4. 11–*Clus.* ii. 197. 3–*Dod.* 105. 2–*Lob. obs.* 412. 4–*Ger. em.* 1045. 2–*Park.* 582. 3–*Matth.* 1033–*H. ox.* viii. 18. 7.

A hard woody plant, from $1\frac{1}{2}$ to $2\frac{1}{2}$ feet high. *Leaves* winged; wings egg-oblong, serrated, about 4 pair, and an odd one at the end. *Bloss.* beneath; segments mulberry-coloured, tube white, fleshy, inclosing the germen; a glandular ring closely embracing, but not adhering to the style. *Petals* when old, only slightly adhering at the base, that one might almost consider it as a 4-petaled blossom. *S. vessel*, besides the coat formed by the permanent tube of the blossom, there is another egg-shaped seed-vessel, including 1 seed. *Upper florets* either without stamens or with only an imperfect one.

*Wild Burnet. Great Burnet. Burnet Bloodwort. Meadow Burnet.* Moist pastures, especially on marly or calcareous soil. [Limestone pastures in the North, very common. Have not found it farther to the S. E. than Ripton, Huntingdonsh. Mr. Woodw. Marly soils about Stafford, not uncommon.] P. June—Aug.

## EPIME'DIUM. *Bloss.* 4 petals: *nectaries* 4; leaning: *cal.* deciduous: *seed-vessel* a pod.

alpi'num.

E.

*E. bot.* 438–*Kniph.* 10–*Mill. ic.* 133–*Dod.* 599–*Lob. obs.* 176. 1–*Ger. em.* 480–*Park.* 1366, *upper fig.*–*J. B.* ii. 391.

Near a foot high. *Leaves* heart-shaped, on leaf-stalks. *Bloss.* mulberry red, with a yellow stripe.

In Bingley Woods, 6 miles from W. Brierley, Yorkshire, not sparingly. Richardson, in Blackst. 19. P. June, July.

This plant does not appear to have been known to Mr. Ray, otherwise than as a native of Austria, &c. nor has it been found in England by any of our later botanists, but the above authority is so particular, that I have been induced to insert it as a means of exciting to further enquiries. Its creeping roots enable it to multiply apace, and when once in possession of the soil, it is not easily eradicated, though if the wood be destroyed where Mr. Richardson found it so plentifully, it may have disappeared, for it seems to require shady and damp situations.—[Since the above was written, Mr. Robson has sent me a specimen which was gathered on Skiddaw in July, 1795. Also specimens from the Rev. T. Gisborne, whose plants were discovered in 1787 in a very wild part of Cumberland called Carrock Fell.]

COR'NUS. *Involucrum* generally 4-leaved: *petals* 4, superior: *drupa* succulent; beneath; 2-celled; hard; solitary.

sanguin'ea. C. Branches straight, leaves egg-shaped, green on both sides: tuft flatted. L. Herit.

*E. bot.* 249–*Fl. dan.* 481–*Matth.* 260–*Lob. obs.* 592. 1–*Park.* 1521. 3–*Ger.* 1283–*Dod.* 782. 2–*Ger. em.* 1467–*Trag.* 1004.

*Tuft of flowers* divided into 5 parts, and these again sub-divided. Scop. *Leaves* egg-spear-shaped, with strong nerves. *Bloss.* white. *Berries* purple. *Leaves* blood red in Autumn.

*Dogberry tree. Hounds tree. Hounds berry. Prick wood. Prick timber. Gatten tree. Female Cornel.* Woods and hedges, not uncommon. S. June.*

sue'cica. C. Herbaceous, with 1 pair of branches.

*E. bot.* 310–*Fl. dan.* 5–*Penn. Scotl.* ii. 39. *at pr.* 314–*Dill. elth.* 91–*Fl. lapp.* 5. 3–*Cluss.* 1. 60. 1–*Ger. em.* 1296. 3–*Park.* 1461. 4–*J. B.* ii. 109. 1–*Ger.* 1113.

*Stem* 4-cornered, rarely branched; forked at top. *Leaves* oval, lower ones rounder; entire, opposite. *General* involucr. 4-leaved, inclosing many flowers; *little leaves* white. *Flowers* dark purple, very small, in an undivided umbel. *Fruit-stalk* solitary, terminating, rising from the fork of the stem. The 4 leaves of the involucrum have such a resemblance to petals, that it is easy at first sight to imagine it a compound flower. Roth. Berries red.

*Cornus herbacea.* Huds. *Dwarf Honeysuckle. Dwarf Cornel.* Hills in the North. [Howle of Horkham, near Pickering, Yorkshire. Mr. Robson. Pentland Hills. Dr. Hope.]

P. June, July.

PARIETA'RIA. Fem. florets mixed with hermaphrodite on the same branch: *calyx* 4-cleft: *bloss.* none: *seed* 1, superior, lengthening.

officina'lis. P. Leaves spear-egg-shaped; fruit-stalks forked; cup of 2 leaves.

* The wood is very hard and smooth, fit for the purposes of the turner. The leaves change to a blood red in the autumn. The berries are bitter and styptic; they dye purple. Horses, Sheep, and Goats eat it. Swine and Cows refuse it.

*Ludw.* 115–*Walc.*–*Ger.* 261–*Fl. dan.* 521–*Curt.* 233–*Woodv.* 142–*Pet.* 8. 1–*Fuchs.* 277–*J. B.* ii. 976. 2–*Gars.* 441–*Lonic.* i. 137. 1–*Cam. epit.* 849–*H. ox.* v. 30. *row* 3. 1–*Matth.* 1113–*Dod.* 102–*Lob. obs.* 130; *ic.* i. 258. 1–*Ger. em.* 331–*Park.* 437–*Blackw.* 156–*Trag.* 193.

*Stems* reddish. *Bloss.* greenish white. *Anthers* if touched when ripe with the point of a needle, burst, and throw out their pollen with considerable force.

*Common Pellitory of the Wall.* On old walls and amongst rubbish. P. May—Sept.*

URTI'CA. Flowers male and female apart: *calyx* 4-leaved: *bloss.* none.
Male, *nectary* in the centre; glass-shaped.
Fem. *Cal.* 2, opposite leafits very small: *summit* hairy: *seed* 1, egg-shaped, shining.

(1) *Male and Female flowers on distinct plants.*

U. Leaves opposite, heart-shaped: bunches in pairs. dioi'ca.

*Woodv.* 146–*Fl. dan.* 746–*Blackw.* 12–*Fuchs.* 107–*J. B.* iii. 445. 2–*Trag.* 2. 1–*Ger.* 570. 2 *and* 4–*Gars.* 637–*Lonic.* i. 108. 2–*Matth.* 1126–*Dod.* 151. 2–*Lob. obs.* 281. 1; *ic.* i. 521. 2–*Ger. em.* 706. 2–*Park.* 441. 3–*H. ox.* xi. 25, *row* 2. 1–*Pet.* 1. 9.

*Common Nettle.* Ditch banks, and amongst rubbish. P. July.†

* This plant was formerly in repute as a medicine, but it does not seem to possess any remarkable qualities.—It is asserted that the leaves strewed in granaries destroy the Corn Weevil.—It contains, I have been informed, a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. The *Nitraria* also contains the same salt, and is said not to flourish unless Nitre is mixed with the soil in which it grows. Dr. Stokes.

† The stings are very curious microscopic objects: They consist of an exceedingly fine pointed, tapering, hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up an acrimonious fluid from the bag, which instantly squirts into the wound, and produces an effect that most have experienced.—The stalks may be dressed like Flax or Hemp, for making Cloth, or Paper.—The plant has formerly been used as an astringent, but is now disregarded.—A leaf put upon the tongue, and then pressed against the roof of the mouth, is pretty efficacious in stopping a bleeding at the nose.—Paralytic limbs have been recovered by stinging them with Nettles.—The young shoots are gathered early in the spring to boil in broth or gruel. Cows eat the leaves when they are a little withered. The leaves are cut to pieces to mix with the food

(2) *Male and female flowers on the same plant.*

pilulif'era. U. Leaves opposite, egg-shaped, serrated: fertile catkins globular.

*E. bot.* 148–*Mill. ill–Kniph.* 9–*Trag.* 3. 2–*Pet.* 1. 11–*Blackw.* 321. 1–*Fuchs.* 106–*J. B.* iii. 445. 1–*Matth.* 1125–*Ger.* 570. 1–*Dod.* 151. 1–*Lob. obs.* 281. 2; *ic.* i. 522. 1–*Ger. em.* 707. 1–*Park.* 440. 1–*H. ox.* xi. 25. 5–*Lonic.* i. 109. 1–*Gars.* 638.

When growing very close to a wall it is frequently taller and slenderer, and the leaves generally smaller and egg-shaped, when more distant the plant is shorter and stronger, and the leaves larger and heart-shaped. WOODWARD.

*Roman Nettle.* Rubbish. Yarmouth, and at Aldborough, Suffolk. *R. Syn.*—[Under walls at Yarmouth and elsewhere on the coast, frequent. Mr. WOODWARD.] A. Aug.

u'rens. U. Leaves opposite, oval: stem branched.

*Fl. dan.* 739–*Ger.* 570. 3–*Matth.* 112–*Dod.* 152–*Lob. obs.* 282. 1; *ic.* i. 522. 2–*Ger. em.* 707–*Park.* 440. 2–*Pet.* 1. 10–*Gars.* 637. 1–*Fuchs.* 108–*J. B.* iii. 446–*H. ox.* xi. 25. *row* 2. 4–*Trag.* 3. 1.

*Lesser Nettle.* Rubbish, cultivated ground. A. July—Sept.*

VIS'CUM. Male and Female flowers on different plants: *bloss.* none.

Male, *calyx* with 4 divisions: *filam.* none: *anthers* fixed to the calyx.

Fem. *Calyx* 4 leaves, superior: *style* none: *berry* pulpy; 1-celled, 1-seeded: *seed* heart-shaped.

al'bum. V. Leaves spear-shaped, blunt: stem forked: spikes axillary.

*Mill. ill–Sheldr.* 20–*Woodv.* 270–*Blackw.* 184–*Kniph.* 1–*Fuchs.* 329–*Lon.* i. 55. 2–*Matth.* 806–*Cam. epit.* 555–

food of young Turkeys, and other Poultry. Cows, Horses, Sheep, Goats and Swine refuse them. Asses are fond of it, and Cows eat it in hay. ST. It gives nourishment to many species of Moths. LINN.

* The leaves are gathered and cut to pieces, to mix with the food of young Turkeys.—Cows, Horses, Sheep, Goats and Swine refuse it. LINN.

*Trag.* 949–*Dod.* 826–*Lob. obs.* 361. 1; *ic.* i. 636. 2–*Ger. em.* 1350. 1–*Park.* 1393. 1–*Gars.* 628–*Ger.* 1168. 1.

A singular parasitical evergreen *shrub*. The *barren plant* opposite to the *fertile* one. LINN. The *root* insinuates its fibres into the woody substance on the tree on which it grows. *Blossom* greenish white. *Berries* whitish.

*White Misseltoe. Missel.* Mostly on Apple trees, also on the Pear, Hawthorn, Service, Oak, Hasel, Maple, Ash, Lime-tree, Willow, Elm, &c. RAY. Rarely on the Oak. HUNT. *evel.* [Very rare in the Northern Counties, growing only at Lithe, near Kendal. Mr. GOUGH. In Worcestershire and Herefordshire very common both in orchards and hedge-row-fruit trees.] S. May.*

## HIPPOPHAE. Male and Fem. flowers on different plants: *bloss.* none.

Male, *Calyx* 1 leaf, 2-lobed.

Fem. *Calyx* 1 leaf, tubular: *berry* superior, 1-celled: *seed* hard, shining.

H. Leaves spear-shaped. Rhamnoi'des.

*Fl. Ross.* i. 68–*E. bot.* 425–*Cam. epit.* 81–*J. B.* i. *b.* 33–*Dod.* 755. 1–*Fl. dan.* 265–*Gies.* 38–*Matth.* 156–*Lon.* ii. 8. 2–*Clus.* i. 110. 1–*Lob. obs.* 598. 3: *ic.* ii. 180. 1–*Ger. em.* 1334. 2–*Park.* 1006. 1.

*Shrub* 8 feet high. *Branches* widely spreading, straight, stiff, thorny at the ends; the *lesser* numerous, scattered, short, expanding. STOKES. *Leaves* strap-spear-shaped, very entire, green above, with whitish scales, white underneath, with a strong prominent mid-rib, which has a corresponding furrow on the upper surface, edges usually somewhat bent back. Wood-

* Birdlime may be made from the berries and from the bark. The Misseltoe Bird, the Fieldfare, and the Thrush eat the berries, the seeds of which pass through them unchanged, and along with their excrements adhere to the branches of trees, where they vegetate. Some authors observing that the roots are always inserted on the under side of the branches, deny this method of propagation; but they do not recollect that the rains will soon wash them into that situation, though it is highly probable that they first fell upon the upper side of the branch. No art hath yet made these plants take root in the earth. Sheep eat it very greedily, and it is frequently cut off the trees for them in hard weather. It is said to preserve them from the rot. Mr. HOLLEFEAR. If the berries when fully ripe, be rubbed on the smooth bark of almost any tree, they will adhere closely and produce plants the following winter. In the garden of Mr. Collins of Knaresborough, are many large plants of it produced in this manner on the dwarf Apple-tree. HUNT. *evel.* It was formerly in great repute as a remedy for Epileptic and other complaints; but it is now very much disregarded; and indeed its sensible qualities promise but little.

WARD. Flowers solitary, appearing before the leaves. Male *flowers* below the leaves, between a branch and a bud; female *flowers* sitting in the bosom of the lowermost leaves. LINN.

*Sea Buckthorn. Common Sallow-thorn.* Sea shore, in sand. Lindley coast, Lincolnshire; Sandwich, Deal and Folkstone, Kent; Whitby and Lyth, Yorkshire. Isle of Sheppey. [Cley and Sherringham Cliffs, Norfolk. Mr. CROWE. Between Yarmouth and Winterton. Mr. WOODWARD.] S. March—May.*

## ALCHEMIL'LA. *Calyx* 8-cleft: *bloss.* none: *seed* 1 or 2, inclosed by the calyx.

vulga'ris. A. Leaves gashed.

*E. bot.* 597–*Abbot. Fl. Bed. p.* 36.–*Ludw.* 176–*Fl. dan.* 693–*Blackw.* 72–*Matth.* 1177–*Trag.* 512–*Fuchs.* 612–*J. B.* ii. 398. *(i)*–*Dod.* 140. 2–*Ger. em.* 949–*Pet.* 9. 9–*Kniph.* 3–*Clus.* ii. 208. 2–*Lob. obs.* 378. 3–*Park.* 538–*H. ox.* ii. 20. *rew* 3. 1–*Pet.* 9. 10–*Ger.* 800–*Mill.* 18. 2.

*Flowers* forming a kind of umbel, the *General* involucr. being a leaf which entirely surrounds the stalk, but the *Partial* involucr. goes only half way round. *Leaves* cloven generally into 7 lobes, the lobes serrated. *Leaf-stalk* sending a rib along the middle of each lobe of the leaf. *Seeds* generally only 1, but sometimes 2 in each seed-vessel. *Flowers* yellowish green.

*Bearsfoot. Common ladies mantle.* Meadows and pastures, frequent. P. June—Sept.†

* Cows refuse it; Goats, Sheep and Horses eat it. The berries are very acid, with an austere vinous flavour, and the fishermen of the gulph of Bothnia prepare a rob from them, which added to fresh fish imparts a very grateful flavour. In sunny sandy situations it is planted for hedges. LINN.

† The whole plant is astringent. In the province of Smolandia, in Gothland, they make a tincture of the leaves, and give it in spasmodic or convulsive diseases. Horses, sheep, and goats eat it. Swine refuse it. Cows are not fond of it. The Rev. S. DICKENSON gives the following curious account of its pernicious effects on Cows.—"Being lately on a visit at Somerford, Mr. Moncton requested me to examine the herbage of a meadow near the river Penk, in which he had the misfortune, a few years ago, to have five milking Cows die suddenly at once, and several more with difficulty recovered. The symptoms of the disease, which he attributed to some noxious plant, were irremediable costiveness and obstructions in the bowels. Upon examination I found a very unusual abundance of *Alchemilla vulgaris* in every part of the field; and am inclined to believe this plant the cause of the fatality, as it is known to be of a very astringent quality. It was the aftermath the herd depastured; and the survivors, upon being introduced into the same field the Summer following, were immediately affected with similar symptoms, but removed in time to prevent the fatal consequences; since which Mr. Moncton has never hazarded the depasturing of it by neat Cattle."

Var. 2. Leaves pubescent. HUDS.

*Pluk.* 240. 2–*Barr.* 728–*Mill.* 18. 1.

*Alchemilla alpina hybrida*, α LINN. *sp. pl.* who supposes it to be the product of the seed of the A. alpina, impregnated by the pollen of the A. vulgaris.

On mountains. P. July.

A. Leaves with finger-like divisions; serrated. alpi'na.

*Fl. dan.* 49–*E. bot.* 244–*Kniph.* 5–*Munting.* 90–*Lob. adv.* 307. 1–*Pet.* 9. 11–*Barr.* 756–*Park.* 394. 3–*J. B.* ii. 398. *(f)* 1–*Clus.* ii. 108. 1–*Ger. em.* 988. 5–*Ger.* 837. 5–*H. ox.* ii. 20. *row* 2. 3.

*Leaves* of a shining white underneath; divided into 7 little leaves, and serrated only at the ends. LINN. *Little leaves* sometimes 5, *those of the stem leaves* 3. WOODWARD. *Flowers* greenish.

*Cinquefoil Ladies mantle.* Mountains in the North. Ulswater, near Penrith. RAY. [Rocks in Borrowdale, near Keswick, Cumberland. Mr. WOODWARD. Near Buckbarrow Well, in Long Sleddale, Westmoreland. Mr. JACKSON.] P. July.

## DIGYNIA.

BUFFO'NIA. *Cal.* 4-leaved: *bloss.* 4 petals: *caps.* 1 cell; 2 seeds.

B. Tenuifolia. tenuifo'lia.

*Magn. hort.* 15–*Pluk.* 75. 3.

*Stem* cylindrical, upright, jointed. *Branches* alternate. *Leaves* 2 at each joint of the stem. *Flowers* at the base of the leaves; white.

*Bastard Chickweed. Chickweed Toadgrass.* Hounslow Heath. Sea Coast, near Boston, Lincolnshire.

A. HUDS. P. Linn. May, June.

BE'TULA. Male and Female flowers on the same plant: *cal.* 1 leaf, with 3 or 5 clefts: *bloss.* with 4 divisions.

Male. *Cal.* 3-flowered.

Fem. *Cal.* 2-flowered: *seeds* 2 or 3.

B. Leaves triangular-spear-shaped, acute; smooth, doubly serrated. al'ba.

*Hunt. Evel.* 225; i. 218. *ed.* II.–*Kniph.* 12–*Gars.* 172. 1–, *Dod.* 839. 2–*Ger. em.* 1478–*Lob. obs.* 607. 2; *ic.* ii. 190. 2–*Park.* 1400. 8–*Matth.* 142–*Blackw.* 240–*Ger.* 1295–*J. B.* i. *b.* 149–*Trag.* 1113.

*Branches,* the lesser deep chesnut coloured. Male *catkins,* scale tipped with brown, with smaller scales fixed to the centre. *Blossom* egg-shaped, concave, green.

Var. 1. Branches upright, stiff, straight.

Var. 2. Branches pliable, pendant.

B. *pendula.* Roth. Gmelin Syst. veg.

*Birch tree. Birk.* Woods and moist hedges. T. Apr. May.*

al'nus. B. Fruistalks branched, wedge-shaped, very blunt: leaves roundish, glutinous: veins underneath woolly at the base.

*Matth.* 140–*Ger.* 1294–*Clus.* i. 12. 2–*Lob. ic.* ii. 191. 1–*Ger. em.* 1477. 2–*Park.* 1409–*Gars.* 138–*Clus.* i. 12. 1–*Dod.* 839. i.–*Ger. em.* 1477. 1–*Hunt. evel. p.* 240; i. *p.* 233. *ed.* II–*Trag.* 1084.

*Leaves* nearly circular; clammy: serrated. *Male* Catkin cylindrical, deep mulberry colour. Segments of the bloss. unequal. *Fem* Catkin egg-shaped. *Style* purplish red.

*Alder. Owler. Oller.* Near water. T. Feb. and Mar.†

* It is liable to a disease in its branches, which causes it to send out a very great number of shoots in the middle of a branch, which being grown to some length, have very much the appearance at a distance of a tree full of Rooks nests; the leaves upon those shoots are downy and soft. It grows in all kinds of soil, but best in shady places. It bears cropping. It is hurtful to pasturage. The wood is firm, tough, and white: Women's shoe-heels, and packing boxes are made of it. It is planted along with hasel to make charcoal for forges. In the northern parts of Lancashire, they form the slender twigs into besoms for exportation. *Penn. tour.* The leaves afford a yellow dye. The bark is extremely useful to the people in the north of Europe; they make hats and drinking cups of it in Kamschatka. The Swedish fishermen make shoes of it. The Norwegians cover their houses with it, and upon this cover, they lay turf three or four inches thick. Torches are made of the bark sliced and twisted together. It abounds with a resinous matter that is highly inflammable. If a hole is bored into the tree when the sap rises in the spring, a sweet liquor distils from it, which properly fermented, with the addition of sugar, makes a pleasant wine.—Horses, cows, goats and sheep eat it: Swine refuse it. It furnishes food to many kinds of moths.

† It flourishes best in low marshy situations, in which it is frequently planted to make hedges. It will not live in a chalky soil. It is easily propagated by seeds, but not by slips or cuttings. Grass grows well beneath its shade. The wood is soft and brittle; endures a long time under water, and therefore is used for pipes; and to lay under the foundations of buildings situated upon bogs. Women's shoe-heels, ploughmen's clogs, cogs

B. Leaves circular, scolloped. na'na.

*Dicks. h. s.–Fl. Ross.* 40. D. E. F. G–*Amœn. academ.* 1. *at p.* 351–*Fl. lapp.* 6. 4–*Lightf.* 25. *at* ii. *p.* 575–*Fl. dan.* 91.

*Shrub* upright. *Trunk* hard, stiff. *Bark* brown, roughish, resembling that of the Ulmus *campestris*. *Branches* expanding, straight, scattered, tapering, woolly, somewhat gummy at the ends. *Leaves* rather broader than they are long. STOKES, commonly 3 from each bud, LIGHTF. but frequently single and alternate, generally entire at the base, scollops often pointed. *Catkins* about half an inch long. WOODWARD.

Mountains and wet heaths, in Scotland. S. May.*

## MYRI'CA. Flowers in catkins, on different plants.

*Cal.* 2 leaves: *bloss.* none.

Fem. *Drupa* 1-celled, superior: *seed* 1.

M. Leaves spear-shaped; somewhat serrated: stem shrub-like. Ga'le.

*E. bot.* 562–*Kniph.* 9–*Fl. dan.* 327–*Ger.* 1228–*Gars.* 397–*Dod.* 780. 2–*Ger. em.* 1414–*J. B.* i. *b.* 225–*Lob. adv.* 417, *ic.* ii. 110. 2–*Lob. obs.* 547. 2–*Park.* 1451. 5.

cogs for mill wheels, and various articles of the Turner are made of it.—The bark gives a red colour, and, with the addition of copperas, a black. It is also used to dye brown, particularly thread, and for colours to be saddened with copperas. It is principally used by fishermen to stain their nets. In the Highlands of Scotland near Dundonald, Mr. Pennant says, the boughs cut in the summer, spread over the fields, and left during the winter to rot are found to answer as a manure. In March the ground is cleared of the undecayed parts, and then ploughed. The fresh gathered leaves are covered with a glutinous liquor; and some people strew them upon their floors to destroy fleas; the fleas are said to be entangled in the tenacious liquor, as birds are by bird lime. The *catkins* dye green.—The whole plant is astringent. It gives food to many kinds of moths and other insects. Horses, cows, goats, and sheep eat it. Swine refuse it. If planted in a low meadow the ground surrounding it will become boggy, whereas, if Ash be planted, the roots of which penetrate a great way, and run near the surface, the ground will become firm and dry. Mr. WOODWARD.

* Linnæus somewhere observes that the plants which chiefly grow upon mountains, are hardly found any where else but in marshes. Probably because the clouds resting upon the tops of the mountains keep the air in a moist state as is done by the fogs in meadows and marshes, which are nothing but clouds in the lower part of the atmosphere.—The leaves dye a finer yellow than that yielded by the Betula alba. It affords the Laplander, in the summer when he lives on the mountains, fuel for the fires which he is obliged constantly to keep in his hut to defend him from the gnats, and covered with the skin of the rein deer, it forms his bed. LINN.—The harness for horses in some parts of the highlands of Scotland is made of the twisted twigs of birch. *Garnett's tour.*

*Stems* smooth, rust-coloured, sprinkled with white dots. *Flower-buds* above the leaf-buds, at the ends of the branches, whence as soon as the fructification is completed, the end of the branch dies, the leaf-buds which are on the sides shoot out, and the stem becomes compound. *Buds* composed of 9 leafy, shining scales; the first nearly opposite, very short, rectangularly pointed; the rest egg-shaped, blunt. *Leaves* convoluted, sprinkled with resinous points, serrated towards the end, on leaf-stalks. *Flowers* appearing before the leaves. Fem. *spike* oblong, composed of 5 rows, and in each row 5 berries. *Berries* thickish, roundish, angular, taper pointed, with 3 shallow clefts, a small tooth being fixed to each, sprinkled with golden resinous dots. LINN. *Catkins* male and female on the same plant. In other specimens from the same spot, catkins on distinct plants. STOKES. And sometimes I have found a few female florets upon the male catkins.

*Sweet Gale. Goule. Sweet Willow. Dutch Myrtle.*— On bogs in gravelly soil, not unfrequent, and generally in large quantity. [Highlands of Scotland.—Near Rufus's Monument in the New Forest, Hampsh.] S. May.*

## CUS'CUTA. *Cal.* 4 or 5-cleft: *bloss.* 1 petal: *caps.* 2-celled, cut round: *seeds* in pairs.

europæ'a. C. Flowers sitting, mostly 4-clefted: stamens with a fringed scale at the base: summits simple.

*E. bot.* 55–*Blackw.* 554–*Fl. dan.* 199–*Fuchs.* 348–*Matth.* 1279–*Trag.* 810–*Dod.* 554–*Lob. obs* 233. 1–*Ger. em.* 577–*Park.* 10. 2–*Ger.* 462–*J. B.* iii. 266.

This *plant* is parasitical, without seed-lobes. The *seed* itself opens and puts forth a little spiral body, which does not seek the earth to take root, but climbs in a spiral direction from right to left, up other plants, from which by means of vessels, it draws its nourishment. *Leaves* none, except here and there a very small membranaceous scale lying close under a branch. LINN. Whole plant purplish red except the blossom which is whitish.

* The northern nations formerly used this plant instead of hops; but unless it be boiled a long time it is apt to occasion head-ache.—The catkins boiled in water throw up a waxy scum, which gathered in sufficient quantity would make candles. From another species of this plant, the *Myrica cerifera*, the myrtle candles are prepared. It is used to tan calf-skins.—Horses and goats eat it; sheep and cows refuse it.—Gathered in the autumn it dyes wool yellow. LINN.—The Welsh make use of it for the same purpose. They also lay branches of it upon and under their beds to keep off fleas and moths, and give it as a vermifuge in powder and infusion, applying it also externally to the abdomen. PENN. *Wales* ii. *p.* 147. Its essential oil rises in distillation. When growing within reach of a sea port I have known the sailors go some miles to fetch it to make besoms for sweeping their ships.

On Hops, nettles, flax, thistle, and gorse. A. Aug. Sept.*

C. Flowers sitting, 5-clefted; surrounded by floral leaves. Stamens without scales at the base. Summits simple. Epith'ymum.

*E. bot.* 55.–*Fl. dan.* 427–*Park.* 10. 1–*Math.* 1277–*Pomet.* 42. 9.

*Bloss.* with 5 divisions, none with less. Shape of *bloss.* and *calyx* agrees with Fl. dan. 427, though in habit it resembles t. 199. WOODWARD. *Calyx segments* egg-shaped, taper-pointed, unequal, not running down into a kind of fruit-stalk as in *C. europæa.* ST. Much more common than the C. europæa.

*Lesser Dodder.* Corn fields and heaths, very common. HUDS. [On Heath about Teignmouth; and on Gorze, (Ulex) in great quantities between Penzance and the land's end.] June, July.

Var. 2. Cup fleshy at the base; 5-clefted: bloss. 5-clefted: stamens 5; pistils 2; seeds 2.

In Devon and Cornwall, along with the preceding. June.

## TRIGYNIA.

BUXUS. Male and female flowers on the same or on a different plant.

Male, *Calyx* 3-leaved: *bloss.* 2 petals: *germen* only a rudiment.

Female, *Calyx* 4-leaved: *bloss.* 3 petals: *caps.* 3-celled; 3-beaked: *seeds* 2.

B. Male and female flowers on the same plant. sempervirens.

*Ludw.* 4–*Kniph.* 1–*Sheldr.* 85–*Walc.*–*Matth.* 190–*Ger.* 1225. 1–*Trag.* 1069–*Dod.* 782. 1–*Munt.* 157. 35–*Lob. obs.* 562; *ic.* ii. 128. 2–*Ger. em.* 1410–*Park.* 1429. 1–*Fuchs.* 642–*Blackw.* 196–*Lonic.* i. 22. 2.

*Leaves* oval, thick, glossy. *Blossoms* greenish white. *Common Box.*

* The *seeds* sown in a pot produced plants, but which soon died, unless they could attach themselves to some other plant. PARK. *and* RAY *hist.* As soon as the shoots have twined about an adjoining plant, they send out from their inner surface a number of little vesicles or papillæ, which attach themselves to the bark, or rind of the plant. By degrees, the longitudinal vessels of the stalk, which appear to have accompanied the vesicles, shoot forth from their extremities, and make their way into the foster plant, by dividing the vessels, and insinuating themselves into the tenderest part of the stalk; and so intimately are they united with it, that it is easier to break than to disengage them from it. *Guettard in Gent. Mag.*

Var. 2. *Narrow-leaved.* On Box-hill, R. *Syn.* Woods and hedges. Box-hill, near Darking, Surrey, plentifully. RAY. Woods of them at Boxwel in Coteswould, Gloucestershire, and Boxley, Kent. R. *Syn.* [In plenty on the Chalk Hills, near Dunstable. Mr. WOODWARD.] P. April.*

## TETRAGYNIA.

ILEX. *Stam.* and *pist.* variously disposed: *calyx* 4-toothed: *bloss.* wheel-shaped: *style* none: *berry* 4-seeded.

Aquifolium. I. Leaves egg-shaped, acute, thorny, on leaf-stalks: flowers in a kind of umbel, axillary.

*E. bot.* 496–*Kniph.* 11–*Fl. dan.* 508–*Mill.* 46–*Hunt. Evel.* 383. i. *p.* 362. *ed.* II.–*Blackw.* 205–*Nat. displ.* ii. 9. *A. at p.* 71–*Dod.* 658–*Matth.* 161–*Jonst.* 63. 6–*Ger.* 1155–*Lob. obs.* 582. 1–*Ger. em.* 1338–*Valc.*–*Munt.* 164. 38–*Trag.* 1067–*Park.* 1487. 1.

*Leaves* surrounded by a strong woody border; tough, shining, evergreen; frequently indented, and each tooth ending in a strong, sharp thorn. The leaves upon the same tree are some of them entire, and some of them thorny. *Flowers* small, whitish, lateral, on short fruit-stalks, generally 3 together, springing from a sort of scale upon the branch. *Berries* scarlet, crowned with the cup, which turns black. *Seeds* 3 or 4. I have found it in flower so late as the 2d week in June, and then *all the flowers* had 4 stamens and 4 pistils.

*Common Holly.* P. May.

Var. 2. Berries yellow.

*Agrifol. baccis lut. &c.* RAY *Syn.* 466. Wiston, Suffolk. RAY. Woods, hedges, heaths. [On the north side of the Wrekin, in Shropshire, the trees grow to a large size. In the hedge on the road leading from Edinburgh to Queensferry, about a mile and half from the Ferry.]

T. April—June.†

* The wood is very hard and smooth, and not apt to warp, and therefore well adapted for the use of the Turner. Combs, Mathematical Instruments, Knife-handles, and Button-moulds are made of it. An empyreumatic oil, distilled from the shavings, is often used as a topical application for the piles, and seldom fails to procure ease. It will frequently relieve the tooth-ach, and has been given internally in epilepsies. The leaves powdered destroy worms. In the South of Europe it is cultivated in gardens, and kept in flower pots with as much attention as we bestow upon Myrtle.

† All the varieties which gardeners reckon to the amount of 40 or 50, are derived from this one species, and depend upon the variegations of the leaves

## POTAMOGE'TON. *Cal.* none: *petals* 4; *style* none: *seeds* 4.

P. Leaves oblong-egg-shaped, on leaf-stalks; floating. na'tans.

Var. 1. *floating*. Sheaths of the fruit-stalks and leaf-stalks more than half the length of the respective stalks.

*Fl. dan.* 1025–*Fuchs.* 651–*Trag.* 688–*Mill. ill.*–*Ger. em.* 821. 1–*Pet.* 5. 4–*H. ox.* v. 29, *row* 1. 1. *at p.* 596–*Ger.* 675. 1–*Park.* 1254. 1–*Matth.* 1137.

*Leaves* opaque, those of the other species pellucid. ST. *Spikes* from the base of the leaves, on fruit-stalks as large as the stem. *Flowers* sitting, numerous. WOODWARD. yellowish. *Leaf-stalks* or the most part longer than the leaves.

*Broad-leaved Pondweed.* Ponds and slow rivers, common. P. July, Aug.*

Var. 2. *bog*. Sheaths of the fruit-stalks and leaf-stalks less than half the length of their respective stalks.

When it grows in a place which is dried up in the summer, it surprisingly changes its appearance, growing upright, and resembling a small Plantago. LINN. *Leaves* alternate, except the upper pair, which are opposite; *lower* ones spear-shaped, on long leaf-stalks; *upper* ones oval, with shorter leaf-stalks. *Stem* about 4 inches high. Smaller, and flowers a month or six weeks earlier than variety 1.

[Boggy ground on Birmingham Heath. In places where stagnant water has been dried up or drained off.] P. May—Aug.

P. Leaves heart-shaped, embracing the stem. perfolia'tum.

*E. bot.* 168–*Fl. dan.* 196–*Dod.* 582. 3–*Ger. em.* 822. 3–*J. B.* iii. 778. 2–*Pet.* 5. 6–*H. ox.* v. 29. *row* 2. 3. *at p.* 596.

leaves or thorns, and the colour of the berries. Sheep are fed in the winter with the croppings: *Pennant's Tour*, 1772. p. 32; as are also Deer. Birds eat the berries. The bark fermented and afterwards washed from the woody fibres, makes the common Birdlime. It makes an impenetrable fence, and bears cropping; nor is its verdure, or the beauty of its scarlet berries, ever observed to suffer from the severest of our winters. The wood is used in fineering, and is sometimes stained black to imitate Ebony. Handles for knives, and cogs for mill-wheels are made of it.

It has been observed, I think by Linnæus, that the lower branches within reach of cattle bear thorny leaves, whilst the upper ones, which stand in need of no such defence, are without thorns.

* The leaves floating upon the surface of the water afford an agreeable shade to fish, and are the habitation and food of the *Phalæna Potamogeton*. The roots are a favourite food of swans. Their love of this plant, so troublesome in still pieces of water, is such, that by harassing it in search of its succulent root during winter, a pair of them have almost destroyed it in the whole extent of nearly five acres of water, which at times has been completely matted over with it. Mr. STACKHOUSE.

*Leaves* heart egg-shaped, very pellucid, like green oiled silk; brittle when dry. *Bloss.* yellowish.

*Perfoliate Pondweed.* Slow rivers and ponds, very common, but the fruit-stalk the only part which rises above the surface of the water. P. June—Aug.

lu'cens. P. Leaves very long and spear-shaped, sitting: upper ones opposite.

*E. bot.* 376–*Kniph.* 5–*Fl. dan.* 195–*Pet.* 5. 5–*J. B.* iii. 777. 1–*Dod.* 582. 2–*Ger.* 822. 4–*H. ox.* v. 29. 4. *at p.* 596.

*Leaves* beautifully green and pellucid, like those of the preceding species; sometimes 8 inches long, and 1½ broad. *Bloss.* reddish.

*Long-leaved Pondweed.* Rivers and ponds. [River Skern, near Darlington. Mr. Robson.] P. June, July.

den'sum. P. Leaves egg-shaped, tapering to a point: opposite, crowded: stem forked: spike 4-flowered.

*E. bot.* 397–*J. B.* iii. 777. 2.

*Fruit-stalk* very short, in the fork of the stem. Linn. Bent back. *Leaves* waved at the edge, crowded towards the end of the stem. Woodward. *Leaves* strap-spear-shaped, 3-ribbed; edges very finely serrulated.

*Lesser Water Caltrops. Frogs Lettuce. Close-leaved Pondweed.* Ditches and slow streams. P. May, June.

cris'pum. P. Leaves spear-shaped, alternate or opposite, waved and serrated.

*Curt.* 5–*Fl. dan.* 927–*Ger. em.* 824. 2–*Park.* 1248. 2–*Pet.* 5. 9–*J. B.* iii. 778. 1–*Clus.* ii. 252. 2–*Ger. em.* 824. 3–*Park.* 1248. 3–*Pet.* 5. 8.

*Stems* branched, flatted. *Leaves* alternate, at the forks of the stem opposite, sitting, nearly strap-shaped, semi-transparent, very crisp. *Spikes* as long as the fruit-stalks. *Bloss.* white or reddish.

*Greater Water Caltrops. Curled Pondweed.* Ponds and slow streams, very common. P. May, June.

compres'sum. P. Leaves strap-shaped, blunt: stem flatted.

*E. bot.* 418–*Fl. dan.* 208–*Pet.* 5. 10.

*Leaves* narrower than in the preceding, not waved. *Spikes* shorter than the fruit-stalks. *Bloss.* greenish.

*Flat-stalked Pondweed.* Slow streams and ditches. [River Skern, near Darlington. Mr. Robson.] P. June, July.

P. Leaves bristle-shaped, parallel, near together, pointing 2 ways. pectina'tum.

*E. bot.* 323–*Lob. ic.* i. 790–*Ger. em.* 828. 4–*Pet.* 5. 13–*Pluk.* 216. 5.

*Flowers* 5 or 6 on each fruit-stalk. Mr. STACKHOUSE. *Stem* cylindrical. *Leaves* flatted. *Bloss.* whitish.

*Fennel-leaved Pondweed.* Rivers and ponds. [R. Waveney. WOODWARD. Entirely filling up a pond at Pendarvis, Cornwall. Mr. STACKHOUSE.] P. May—July.

P. Leaves strap-shaped, alternate, distinct; the base sheathing the stem. mari'num.

*Fl. dan.* 186–*Vaill.* 32. 5–*H. ox. v.* 29. 9. *at p.* 596.

The *Stipulæ* not distinct in this, as in the other species, but the leaves fixed to them. LINN. *Leaves* growing from the sheaths, which are slightly forked at the extremity as in *P. pectinatum.* In stagnant salt water ditches the whole plant is shorter; the branches and leaves closer and more frequent. In running water, whether salt or fresh, it grows to a vast length, and the branches and leaves are farther asunder, but in both cases preserve their parallelism. *Spike* long; with sitting flowers, growing mostly in interrupted whirls. Fl. dan. 186 more exactly resembles our fresh than salt water plants, though quoted in *Syst. Veget.* for P. marinum. WOODWARD. Leaves scarcely a line broad. POLLICH. In quite fresh water it becomes the *P. pectinatum.* Mr. CROWE, Mr. WOODWARD.

*Sea Pondweed.* Salt water ditches. [Near Yarmouth. Mr. WOODWARD. In the Skern, near Darlington, a fresh water rivulet. Mr. ROBSON.] P. HUDS. July, August.

P. Leaves strap-spear-shaped, alternate, sitting, broader than the stipulæ. gramin'eum.

*Fl. dan.* 222–*Ray* 4. 3.

The *leaves* at the base of the fruit-stalks opposite. *Stipulæ* very numerous and large. HALL. *Fl. dan.* and *Ray* are both referred to by Linnæus and Haller, but Mr. Lightf. has very justly remarked the want of stipulæ in the fig. of Ray. I suspect they will turn out to be 2 species. *Ray* 4. 3, is the fig. referred to in the Sp. pl. and with which my specimens correspond. *Stipulæ* much narrower than the leaves, and so as easily to escape the attention of a common artist; *rather strap-shaped, bluntish, and set close,* as in Ray's figure; not *spear-shaped, tapering to a point, toothed, and at a considerable distance from each other,* as in that of the Fl. dan. Ribs 3; very finely serrated. STOKES. *Leaves* mostly serrulated upwards.

*Grass-leaved Pondweed.* Slow streams and ditches. Binsey common. Ditches by the road side going to Port Meadow, Oxon. SIBTHORPE. [River Skern, near Darlington. Mr. ROBSON.]
P. July.

seta'ceum. P. Leaves spear-shaped, opposite, tapering to a point.
In peaty ditches in Lancashire. P. July, Aug.

pusil'lum. P. Leaves strap-shaped, opposite and alternate, distinct, expanding from the base: stem cylindrical.

*E. bot.* 215–*Vaill.* 32. 4–*Pet.* 5. 11.

*Leaves* alternate; but those at the base of the fruit-stalks opposite. NECK. as is the case in all the species I have examined even where the other leaves are alternate. Dr. STOKES. Whole *plant* extremely slender. *Stem* much branched, scored. *Leaves* very narrow, pointed, extremely expanding at the base, sometimes almost bent back. *Stipulæ* broader than the leaves, short, membranaceous. *Spike* short. *Flowers* on fruit-stalks. WOODWARD. *Leaves* rather longer than the joints of the stem, not at all sheathing it. *Fruit-stalks* sheathed at the base by 2 concave, skinny, spear-shaped scales, which Dr. Smith observes are stipulæ, being found within the base of all the leaves, but are probably calculated to answer the purposes both of stipulæ and also of floral leaves as lateral fruit-stalks rise from within them. *Spikes* terminating, nearly globular, about 3 flowers in each.
*Small Pondweed.* Ponds in clayey soil. [About Tamworth, Warwickshire.] A. LINN. P. HUDS. June—Aug.

RUP'PIA. *Cal.* none: *bloss.* none: *seeds* 4, on pedicles.

mari'tima. R.

*E. bot.* 136–*Fl. dan.* 364–*Mich.* 35–*Pluk.* 248. 4–*Pet.* 6. 1–*Lob. obs.* 653. 1, *and ic.* ii. 255. 2–*Ger. em.* 1573. 7–*Park.* 1289. 5–*Lightf.* 8. 1–*Fructif. Ray* 6. 1. *at p.* 168.

*Flowers* on each fruit-stalk, from 1 to 4, though commonly 2, one terminating, and one sitting. *Stamens, germens* and *seeds*, 4 in each flower. This plant when not in fruit, very much resembles Potamogeton marinum. Mr. ROBSON. *Leaves* alternate, very long and slender. *Stems* thread-shaped.
*Tassel Pondweed. Sea Tassel-grass.* Salt water ditches. [Near Yarmouth. Mr. WOODWARD. Cornwall, Mr. STACKHOUSE. Near the mouth of the Tees. Mr. ROBSON.]
A. LINN. P. HUDS. July, Aug.

**SAGI'NA.** *Calyx* 4-leaved: *petals* 4: *caps.* 1-celled, 4-valved, many-seeded.

S. Branches trailing. procumbens.

*Curt.–Kniph.* 10–*Seguier.* i. 5. 3–*Park.* 1340. 6–*Pet.* 59. 10.

*Flowers* sometimes with petals, and sometimes without. LINN. *Root* perennial when cultivated, and in a garden it produces petals, though I could never find any in a wild state. JACQUIN. Two or three inches high; *stems* thread-like; *leaves* slender, and minute. *Bloss.* greenish white. The 4 valves of the capsule, after it opens, have so much the appearance of petals, that it is possible to mistake them for such.

*Chickweed-Breakstone. Trailing Pearlwort.* Walls, roofs, sandy, and also boggy places; garden walks, paved courts, common. P. June.

Var. 2. Flowers with 5 petals.

This seldom or never grows in patches. The fruit-stalks and the capsules are longer than in Var. 1. The flowers have mostly 5 petals and 10 stamens, and then they have always 5 styles.

[On Ben Lawers, at a great height. Mr. BROWN. Aug. 1794.]

S. Stem rather upright, pubescent: flowers alternate; without petals. LINN. petals very minute. ST. notched at the end. apet'ala.

*Dicks. h. s.–Curt.–Fl. dan.* 845–*Plott. oxf.* 9. 7. *at p.* 146–*Pet.* 59. 11–*Pluk.* 74.

*Leaves* hairy. *Hairs* not terminated by minute globules as in *Spergula laricina*, which it otherwise much resembles. It is still a smaller and a more slender plant than the preceding, and is always hairy, whilst the other is never so. It is an annual and the other a perennial. CURT. The hairs on the stems are apt to fall off; but those on the leaves are more permanent.

*Annual Pearlwort.* On walls, gravel-walks, and other very dry places, not uncommon. A. May, June.

S. Stem upright, generally supporting a single flower. erec'ta.

*Dicks. h. s.–E. bot.* 609–*Curt.–Ray* 15. 4. *at p.* 348.–*Vaill.* 3. 2–*Pet.* 59. 9.

*Stem* with 1 to 3 flowers. LINN. *Caps.* that of a Cerastium, with 10 teeth. CURT. A much stronger plant than either of the preceding; about 2 inches high. *Leaves* strap-spear-shaped. *Bloss.* white.

*Least Stichwort. Upright Pearlwort.* Gravelly soil. [Heaths in Norfolk, frequent. Mr. WOODWARD.] A. April, May.

cerastoi'des. S. Stem spreading, forked: leaves battledore, or inversely egg-shaped; pointed, bent back: fruit-stalks reflected after flowering.

*Dicks. h. s.–Curt.–E. bot.* 166.

A span high; stems several, cylindrical; branches diverging. *Leaves* opposite, in pairs, upper ones sitting. Flowers from the forks of the stems and branches. *Fruit-stalk* an inch long, pubescent. *Calyx* 4-leaved. *Bloss.* 4 petals, white, cloven at the end, but half the length of the cup. *Stam.* 4. Germen egg-shaped, as long as the stamens. *Styles* 4, very short, upright. *Summits* bent back, woolly. *Caps.* cylindrical, opening at the top, with 8 teeth. Its habit that of a Cerastium. Discovered by Mr. Dickson on the sandy shores of Inch Keith, Inch Coombe, and on the beach near Preston Pans.

A. June, July. Linn. tr. ii. 343.

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## CLASS V.

# PENTANDRIA.

## MONOGYNIA.

(1) *Flowers of* 1 *petal*; *beneath*; *and* 4 *naked seeds.* Rough-leaved.

E'CHIUM. *Bloss.* mouth naked; irregular; bell-shaped.

PULMONA'RIA. *Bloss.* mouth naked; funnel-shaped: *Cal.* prism-shaped.

LITHOSPER'MUM. *Bloss.* mouth naked; funnel-shaped: *Cal.* with 5 divisions.

SYM'PHYTUM. *Bloss.* mouth toothed: bellying.

BORA'GO. *Bloss.* mouth toothed: wheel-shaped.

LYCOP'SIS. *Bloss.* mouth closed; funnel-shaped; tube crooked.

ASPERU'GO. *Bloss.* mouth closed; funnel-shaped, *Fruit* compressed.

CYNOGLOS'SUM. *Bloss.* mouth closed: funnel-shaped: *Seeds* depressed; fixed sidewise.

ANCHU'SA. *Bloss.* mouth closed; funnel-shaped; tube prism-shaped at the bottom.

MYOSO'TIS. *Bloss.* mouth closed; salver-shaped; lobes notched at the end.

(2) *Flowers of* 1 *petal*; *beneath*. *Seeds in a vessel.*

ANAGAL'LIS. *Caps.* 1-celled; cut round: *Bloss.* wheel-shaped; *Summit* a knob.

LYSIMA'CHIA. *Caps.* 1-celled; 10-valved: *Bloss.* wheel-shaped: *Summit* blunt.

CY'CLAMEN. *Caps.* 1-celled; pulpy within: *Bloss.* reflected: *Summit* acute.

PRI'MULA. *Caps.* 1-celled; *Bloss.* funnel-shaped; mouth open: *Summit* a knob.

HOTTO'NIA. *Caps.* 1-celled: *Bloss.* tube below the stamen: *Summit* globular.

MENYAN'THES. *Caps.* 1-celled: *Bloss.* shaggy: *Summit* cloven.

CONVOL'VULUS. *Caps.* 2-celled; 2 seeds: *Bloss.* bell-shaped: *Summit* cloven.

DATU'RA. *Caps.* 2-celled; 4-valved; *Bloss.* funnel-shaped: *Cal.* deciduous.

HYOSCY'AMUS. *Caps.* 2-celled; covered with a lid: *Bloss.* funnel-shaped: *Summit* a knob.

VERBAS'CUM. *Caps.* 2-celled: *Bloss.* wheel-shaped: *Stamens* declining: *Summit* blunt.

CHIRO'NIA. *Caps.* 2-celled: *Bloss.* funnel-shaped: *Anthers* spirally twisted after flowering.

LOBE'LIA, *Caps.* 1 to 3-celled: *Bloss.* irregular: *Cal.* 5-cleft.

POLEMO'NIUM. *Caps.* 3-celled: *Bloss.* with 5 divisions: *Stam.* standing on the valves.

AZA'LEA. *Caps.* 5-celled: *Bloss.* bell-shaped: *Summit* blunt.

VIN'CA. *S. Vess.* 2 upright little bags: *Bloss.* salver-shaped: *Seeds* simple.

SOLA'NUM. *Berry* 2-celled: *Anthers* with 2 holes in each.

A'TROPA. *Berry* 2-celled: *Stamens* distant: crooked.

[Gentiana Centaurium.]

(3) *Flowers of* 1 *petal*; *superior*. *Seeds in a vessel.*

SAM'OLUS. *Caps.* 1-celled: 5-valved at the top: *Bloss.* salver-shaped: *Summit* a knob.

PHYTEU'MA. *Caps.* 2 or 3-celled; perforated: *Bloss.* with 5 divisions.

CAMPA'NULA. *Caps.* 3 or 5-celled; perforated: *Bloss.* bell-shaped: *Summit* 3-cleft.

LONICE'RA. *Berry* 2-celled; roundish: *Bloss.* irregular: *Summit* a knob.

[Viburnum lantana. Rubia.]

(4) *Flowers of* 5 *petals*; *beneath the germen.*

RHAM'NUS. *Berry* 3-celled: roundish: *Cal.* tubular, resembling a blossom, with 5 converging scales at the mouth.

EUO'NYMUS, *Berry* like a capsule; lobed: *Cal.* expanding: *Seeds* in a berry-like seed-coat.

IMPA'TIENS. *Caps.* 1-celled; 5-valved: *Bloss.* irregular: *Nectary* 1 leaf; hood-like: *Stamens* adhering together: *Cal.* 2 leaves.

VI'OLA. *Caps.* 1-celled; 3-valved: *Bloss.* irregular: with a spur behind: *Anthers* adhering together: *Cal.* 5 leaves.

(5) *Flowers of* 5 *petals*; *above the germen.*

RI'BES. *Berry* many-seeded: *Cal.* bearing the blossom: *Style* cloven.

HE'DERA. *Berry* 5-seeded; clasped by the calyx: *Summit* simple.

JASIO'NE. *Caps.* 2-celled: *Bloss.* regular: *Anthers* adhering together: *Cal.* common, 10-leaved.

(6) *Flowers incomplete*; *beneath the germen.*

ILLE'CEBRUM. *Caps.* 1-seeded: 5-valved: *Cal.* simple, inelegant.

GLAU'X. *Caps.* 5-seeded; 5-valved: *Cal.* simple; inelegant; bell-shaped.

[Salix pentandra. Polygonum amphibium. Atriplex. Salsola. Chenopodium maritimum.]

(7) *Flowers incomplete; beneath.*

THE'SIUM. *Seed* 1; crowned: *Cal.* bearing the stamens.

## DIGYNIA.

(1) *Flowers incomplete.*

XAN'THIUM. Flowers compound. Male and fem. on the same plant.
M. *Cal.* common; tiled: *Bloss.* 1 petal; 5-cleft; funnel-shaped: *Recept.* chaffy.
F. *Cal.* involucrum; 2-leaved; 2-flowered: *Bloss.* none: *Drupa* juiceless; prickly; with 2 clefts: *Nut* 2-celled.

UL'MUS. *Berry* juiceless; compressed: *Cal.* 1 leaf: shrivelling.

HU'MULUS. *Seed* 1; within a leafy calyx: *Flowers,* male and fem. on different plants.
M. *Cal.* 5-leaved.
F. *Cal.* 1 leaf; entire; with an oblique opening.

A'TRIPLEX. *Seed* 1; compressed: *Female* flowers on the same plant.
H. *Cal.* 5 leaves.
F. *Cal.* 2 leaves.

CHENOPO'DIUM. *Seed* round and flat: *Cal.* with 5 divisions; segments concave.

BE'TA. *Seed* 1; kidney-shaped: *Cal.* with 5 divisions: with a 1-celled capsule in its base.

HERNIA'RIA. *Seed* 1; egg-shaped; covered: *Cal.* with 5 divisions: *Filaments* 5 sterile ones.

SAL'SOLA. *Seed* 1; like a snail-shell; inclosed in a capsule covered by the calyx.

[Polygonum amphibium. Staphylea pinnata. Scleranthus annuus, and perennis. Quercus. Cuscuta europæa.]

(2) *Flowers of* 1 *petal; beneath the germen.*

SWER'TIA. *Caps.* 1-celled; 2-valved; *Bloss.* wheel-shaped; with 5 nectariferous pores.

GENTIA'NA. *Caps.* 1-celled; 2-valved; *Bloss.* tubular: *Receptacles* of the seeds, 2.

[Cuscuta.]

(3) *Flowers of* 5 *petals, beneath.*

[Staphylea pinnata.]

(4) *Flowers of* 5 *petals, mostly of* 2 *seeds.* UMBELLIFEROUS.

A. *Involucrum* general, and partial.

ERYNG'IUM. *Flowers* forming a head: *Recept.* chaffy.

HYDROCO'TYLE, *Flowers* in a sort of umbel; fertile: *Seeds* compressed.

SANIC'ULA. *Flowers* in a sort of umbel; central ones barren: *Seeds* prickly.

HERACLE'UM. *Flowers* radiate; some barren: *Invol.* deciduous: *Seeds* membranaceous.

ŒNAN'THE. *Flowers* radiate; outer ones barren: *Invol.* simple; *Seeds* crowned, sitting.

ECHINO'PHORA. *Flowers* radiate; some barren: *Invol.* simple: *Seeds* sitting.

CAU'CALIS. *Flowers* radiate; central ones barren: *Invol.* simple; *Seeds* prickly.

DAU'CUS. *Flowers* radiate; central ones barren; *Invol.* winged: *Seed* rough with hairs.

TORDY'LIUM. *Flowers* radiate; all fertile: *Invol.* simple: *Seeds* scolloped at the edge.

PEUCE'DANUM. *Flowers* uniform; central ones barren: *Invol.* simple: *Seeds* depressed; scored.

CO'NIUM. *Flowers* uniform; all fertile: *Partial Invol.* extending but half way round: *Petals* heart-shaped: *Seeds* bulging; ribbed and furrowed.

BU'NIUM. *Flowers* uniform; all fertile: *Partial Invol.* like bristles: *Petals* heart-shaped.

ATHAMAN'TA. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* convex; scored.

BUPLEU'RUM. *Flowers* uniform; all fertile: *Partial Invol.* resembling petal: *Petals* rolled inwards.

SI'UM. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* nearly egg-shaped; scored.

SELI'NUM. *Flowers* uniform; all fertile: *Petals* heart-shaped: *Seeds* flat; scored.

CRITH'MUM. *Flowers* uniform; all fertile: *Invol.* horizontal: *Petals* flattish.

LIGUS'TICUM. *Flowers* uniform; all fertile: *Involucrum* membranaceous: *Petals* rolled inwards.

ANGE'LICA. *Flowers* uniform; all fertile: *Umbellules* globular: *Petals* nearly flat.

SI'SON. *Flowers* uniform; all fertile: *Umbel* of few spokes: *Petals* nearly flat.

B. *Involucrum* only partial.

CORIAN'DRUM. *Flowers* radiate; central ones barren: *Fruit* globular.

SCAN'DIX. *Flowers* radiate; central ones barren: *Fruit* oblong.

ÆTHU'SA. *Flowers* somewhat radiate; all fertile: *Partial Involucrum* extending but half way round.

PHELLAN'DRIUM. *Flowers* uniform; all fertile: *Fruit* crowned.

IMPERATO'RIA. *Flowers* uniform; all fertile: *Umbel* spreading; flat.

CICU'TA. *Flowers* uniform; all fertile: *Petals* flattish.

CHÆROPHYL'LUM. *Flowers* uniform; central ones barren: *Partial Involucrum* of 5 leaves.

[Bupleurum rotundifolium. Pimpinella. Heracleum Sphondylium. Œnanthe crocata. Caucalis leptophylla. Angelica sylvestris. Bunium Bulbocastanum.]

C. *Involucrum* none; neither general nor partial.

SMYR'NIUM. *Flowers* uniform; central ones barren: *Seeds* kidney-shaped; angular.

CA'RUM. *Flowers* uniform; central ones barren: *Seeds* bulging; scored.

PASTINA'CA. *Flowers* uniform; all fertile: *Seeds* depressed and flat.

ANE'THUM. *Flowers* uniform; all fertile: *Seeds* bordered; scored.

ÆGOPO'DIUM. *Flowers* uniform; all fertile: *Seeds* bulging; scored: *Petals* heart-shaped.

A'PIUM. *Flowers* uniform; almost all fertile: *Petals* bent inwards; *Seeds* minute; scored.

PIMPINEL'LA. *Flowers* uniform; all fertile: *Umbels* before flowering, nodding: *Petals* heart-shaped.

## TRIGYNIA.

(1) *Flowers above the germen.*

VIBUR'NUM. *Bloss.* 5-cleft: *Berry* 1-seeded.

SAMBU'CUS. *Bloss.* 5-cleft: *Berry* 3-seeded.

(2) *Flowers beneath the germen.*

CORRIGI'OLA. *Bloss.* 5 petals: *Cal.* with 5 divisions: *Seed* 1, 3-cornered.

STAPHYLE'A. *Caps.* with 2 or 3 clefts; inflated: *Bloss.* 5 petals.

TA'MARIX. *Caps.* 1-celled: *Seeds* downy: *Bloss.* 5 petals.

ALSI'NE. *Caps.* 1-celled: *Bloss.* 5 petals: *Petals* cloven: *Cal.* 5-leaved.

[Montia fontana, Arenaria rubra, and marina. Salsola fruticosa, and Kali. Holosteum umbellatum. Chenopodium maritimum. Quercus.]

## TETRAGYNIA.

PARNAS'SIA. *Bloss.* 5 petals: *Nectaries* 5; fringed with glands: *Caps.* 4-valved.

[Ilex Aquifolium. Quercus.]

## PENTAGYNIA.

LI'NUM. *Bloss.* 5-petals. *Caps.* 10-celled; 1 seed in each cell.

DRO'SERA. *Bloss.* 5-petals: *Caps.* 1-celled; opening at the top.

SIBBAL'DIA. *Bloss.* 5-petals: *Cal.* 10-cleft: *Seeds* 5.

STA'TICE. *Bloss.* with 5 divisions; *Seed* 1.

[Cerastium semidecandrum. Spergula pentandra. Geranium. Sagina procumbens. Quercus.]

## HEXAGYNIA.

[Drosera.]

## POLYGYNIA.

MYOSU'RUS. *Cal.* 5-leaved: *Nectaries* 5; tongue-shaped: *Seeds* numerous.

[Ranunculus hederaceus.]

## MONOGYNIA.

MYOSO'TIS. *Blossom* salver-shaped, 5-cleft, lobes notched: *mouth* closed with projecting scales: *nuts* 4, imperforated.

M. Seeds smooth: calyxes inversely egg-shaped, blunt, smooth, as long as the tube of the blossom: leaves spear-shaped. palus'tris.

*Curt.* 165–*Kniph.* 11. *M. palustris–E. bot.* 480, *the uncoloured figure–Ger. em.* 337. 3–*Park.* 691. 8–*H. ox.* xi. 31. *row* 2. 4.

From 6 to 12 inches high. Flowers in a long spike-like bunch, twisted spirally at the top. *Bloss.* fine blue, valves forming a bright yellow eye, convex above and covering the anthers which are in the hollow underneath.

*Water Mouse-ear Scorpion-grass.* Myosotis scorpioides β *palustris.* LINN. Wet ditches, springs, rivulets, common.

P. May. July.

M. Seeds smooth: calyxes egg-shaped, tapering to a point, very hairy, longer than the tube of the blossom: leaves egg-spear-shaped. arven'sis.

*E. bot.* 480–*Kniph.* 11. *M. arvensis–Fl. dan.* 583–*Ray Syn.* 9. 2. *at p.* 128. *Dod.* 72.–*Lob. obs.* 245. 4–*Ger. em.* 337. 4–*Park.* 691. 7–*H. ox.* xi. 31. *row* 2. 1–*J. B.* iii. 589. 2–*Walc.* 5.

A smaller plant than the preceding, and the blossoms much smaller, except perhaps when growing in a damp and shaded situation, as was the case in the plant figured by Ray. In dry situations the blue border of the blossom is very small, and sometimes is scarcely expanded at all, so that the bloss. appears yellow. Both the species are liable to this kind of variation, but it happens more frequently in the M. *arvensis.*

*Field Mouse-ear. Scorpion-grass.* Myosotis scorpioides. *α arvensis.* LINN. Walls, dry pastures, gardens, and sandy places. A. May, June.

LITHOSPER'MUM. *Bloss.* funnel-shaped, tube long, slender, open and without valves at the mouth: *cal.* with 5 divisions: *nuts* 4, very hard, imperforated.

officina'le. L. Seeds smooth; blossoms hardly longer than the cup; leaves spear-shaped.

*Fl. dan.* 1084–*E. bot.* 134–*Woodv.* 213–*Kniph.* 9–*Ludw.* 147–*Dod.* 83. 2–*Ger. em.* 609. 2–*Park.* 432. 1–*H. ox.* xi. 31. *row* 1. 1–*Ger.* 486. 2–*Matth.* 918–*Fuchs.* 489–*Trag.* 536–*J. B.* iii. 590. 2.

*Blossoms* pale yellow. *Seeds* as hard as bone. LINN.

*Gromill. Graymill. Common Gromwell.* Dry gravelly soil. Woods, common. Mr. WOODWARD. P. May, June.

arven'se. L. Seeds wrinkled; blossoms hardly longer than the cups.

*Kniph.* 10–*E. bot.* 123–*Riv. mon.* 9. 1–*Fl. dan.* 456–*Blackw.* 436–*H. ox.* xi. 28. 7–*Ger. em.* 610. 4–*Park.* 432. 6–*Matth.* 917.

Perfect seeds either 2, 3 or 4, but generally 3, with one abortive; and when there are 4 perfect ones which I found to be the case in two instances, there were besides 2 abortive, and 6 divisions in the calyx. Mr. AIKIN. *Roots* crimson red. *Bloss.* white. *Seeds* rather covered with hard tubercles than wrinkled. *Calyx* segments after flowering 3 or 4 times as long as the seeds, but in the preceding species not twice their length.

*Corn Gromwell. Bastard Alkanet. Bastard Gromill. Salfern. Painting Root.* Corn fields, common. A. May, June.*

pur'puro-cœru'leum. L. Seeds smooth; blossom much longer than the cup.

*Jacq. austr.* 14–*E. bot.* 117–*Pet.* 29. 6–*Clus.* ii. 163. 2–*Dod.* 83. 1–*Lob. obs.* 245. 1–*Ger. em.* 609. 1–*Park.* 431–*H. ox.* xi. 31. 2–*Pluk.* 76. 2–*Get.* 486. 1–*J. B.* iii. 692. 1.

* The girls in the North of Europe paint their faces with the juice of the root upon days of festivity. The bark of the root tinges wax and oil of a beautiful red, similar to that which is obtained from the root of the foreign Alkanet that is kept in the shops. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it.

The *barren stems* creeping and sending forth roots. *Flowering stems* upright. *Blossoms* purple. LINN. *Bloss.* larger than in either of the preceding, of a fine deep blue, nearly twice the length of the calyx, whose segments after flowering grow much longer, as in the L. arvense.

*Creeping Gromwell.* Mountainous and woody pastures, rare. In the west of England, and in a chalky soil near Greenhithe in Kent, found by Mr. Latham. E. bot. P. Apr. May.

## ANCHU'SA. *Bloss.* funnel-shaped; mouth closed by projecting valves: *nuts* 4, each of 1 cell; perforated at the base.

A. Fruit-stalks in heads, 2 leaves to each head: leaves egg-shaped, acute: floral leaves somewhat waved and serrated. sempervirens.

*Dicks. h. s.–E. bot.* 45–*Munt.* 117–*H. ox.* xi. 26. 2–*Lob. adv.* 247–*Ger. em.* 797. 3.

A strong rough dark green plant, near a yard high. *Leaves* with us rarely spotted with white, as Linnè had observed them to be. This accident seems principally to happen to the root-leaves, which have stood the winter's cold, for the stem does not stand the winter. *Bloss.* fine blue, segments rounded, tube at the base 4-cornered. *Germens* bedded in a hollow glandular receptacle. *Seeds* 1 or 2 generally abortive; rough, very hard.

*Evergreen Alkanet.* Road sides and amongst rubbish. [Haddiscoe. Suffolk, Mr. WOODWARD; near Norwich, Mr. PITCHFORD; near the Blanketts, Worcester. Mr. Ballard. About Sidmouth. Mr. KNAPPE.—Near Birmingham, on the Alcester Road, and in sandy hedge banks in the lanes about Edgbasten, plentiful.] P. May. July.

## CYNOGLO'SSUM. *Bloss.* funnel-shaped: mouth closed by projecting valves: *nuts* 4, depressed, fixed to the style by the inner side only, imperforated.

C. Stamens shorter than the blossom: leaves broad, spear-shaped, sitting, cottony. officinale.

*Fl. dan.* 1147–*Kniph.* 1–*Wood.* 216–*Ludw.* 81–*Curt.* 249–*Matth.* 1190 *and* 1191–*Dod.* 54. 1 *and* 2–*Lob. obs.* 313–*Ger. em.* 804. 1 *and* 1–*Park.* 511 *and* 512. 3–*Blackw.* 249–*Or.* 659–*H. ox.* xi. 30. 1 *and* 2–*J. B.* iii. 598.

Whole *plant* downy, and soft to the touch. *Leaves* strap-spear-shaped. Calyx *segments* oblong-egg-shaped, not sharp. *Bloss.* a marone or mulberry colour. *Valves* fringed.

*Great Houndstongue.* Road sides and amongst rubbish, common. [Lilleshall Abbey, Shropsh.] P. June.*

sylvat'icum. C. Stamens shorter than the blossom: leaves spear-shaped, harsh, flat, distant, nearly sitting. [Jacquin.]

*Col. ecphr.* 175–*Park.* 512. 5.

*Leaves* dark green, rough, not cottony. *Flowers* dull blue, or reddish, smaller than in the preceding, neither has the plant the strong scent nor the hoariness of that.

*C. officin.* γ Linn. [Shady lanes about Worcester. Stokes. —Near the 3d mile stone from Worcester on the road to Pershore. Nash.] B. May.

## PULMONA'RIA. *Bloss.* funnel-shaped; mouth open: *calyx* tubular, but 5-sided.

### (1) *Calyx as long as the tube of the blossom.*

angustifo'lia P. Root-leaves spear-shaped.

*Kniph.* 1–*Fl. dan.* 483–*Ger.* 662. 2–*Clus.* ii. 170. 1–*Ger. em.* 808. 2–*H. ox.* xi. 29. *row* 2. 5–*Park. par.* 251. 2.

Very nearly allied to the P. officinalis, differing only in the narrowness of its leaves. Linn. *Bloss.* red at first, expanding, soon changing to blue. All the leaves spear-shaped.

*Bugloss-Cowslips. Long-leaved Sage of Jerusalem. Narrow-leaved Langwort.* "Mr. Goodyer found it in a wood by Holbury House in the New Forest, Hampshire." Johnson *in Ger. em. p.* 809.—*R. Syn.* 226.—The authority of Mr. Goodyer is cited also by Parkinson, but who supposes him to have found the *P. officinalis.* Mr. Robson informs me that he had a specimen sent him in the year 1783, by the late Mr. Waring, of Leescrood, Flintsh. who found it growing wild on the ruins of the Monastery Maes Glas, but Mr. Griffith says Mr. Waring's specimen proves to be the *Anchusa sempervirens.*

officina'lis. P. Root-leaves egg-heart-shaped; rough; upper leaves egg-shaped, acute. E. bot.

* Both the root and leaves have b[illegible] acotic properties, but some will not admit the [illegible] present practice; but Mr. Ray says that Dr. Hu[illegible] he roots inwardly, and cataplasms of them outwa[illegible] hulous cases. Its scent is very disagreeable, and [illegible] at of mice. Mr. Hill. Goats eat it. Cows, hors[illegible] tune it. It furnishes food to the *Phalæna Domina.*

*Ludw.* 45–*Fl. dan.* 482–*Woodv.* 212–*Kniph.* 1. *two figures* –*E. bot.* 118–*Blackw.* 376–*Ger.* 662. 1, *and* 663. 4–*Clus.* ii. 169. 1–*Dod.* 135. 1–*Lob. obs.* 317. 1–*Ger. em.* 808. 1–*H. ox.* xi. 29. 8–*Walc.*–*Park. par.* 251. 1–*J. B.* iii. 595 –*Matth.* 1040.

*Stems* 10 or 12 inches high; numerous, branchless, angular, upright, hispid. *Leaves* entire, hispid, light green with white spots on the upper surface: *root-leaves* egg-heart-shaped, on long leaf-stalks, not much lengthened out at the base: *lower* stem-leaves egg-spear-shaped: *upper* leaves heart-spear-shaped, half embracing the stem. Sowerby's fig. in E. bot. wants the lowest root-leaves, which are always egg-heart-shaped, and very unlike those in the back ground of that plate, which however, in every other respect is very good. Mr. Robson. It is now ascertained on the authority of the Linn. herbar. that this is a native with us; specimens found by Mr. Robson near Darlington, having been compared by Dr. Smith. *Leaves* frequently with white spots. *Bloss.* purplish red when newly expanded, soon changing to blue. *Tube* white; mouth hairy.

*Spotted Lungwort. Cowslips of Jerusalem. Broad-leaved Lungwort.* [In Cliff Wood, about 6 miles west of Darlington. Mr. Robson. In a shady lane about a mile from Bromham, Wilts. Mr. Norris.] P. Apr. May.*

(2) *Calyx only half as long as the tube of the blossom.*

P. Leaves egg-shaped: stem branched, trailing. mari'tima.

*Dicks. h. s.*–*E. bot.* 368–*Curt.*–*Lightf.* 7–*Dill. elth.* 65–*Fl. dan.* 25–*Pluk.* 172. 3–*H. ox.* xi. 28. *row* 2. 12–*Park.* 766. 5–*Sibbald.* 12. 4.

All the leaves sitting; upper ones oval, lower ones oval-battledore-shaped. Mr. Harriman, from Mr. Robson. *Leaves* upper surface sprinkled with white prominent dots. St. *Bloss.* pink, before they expand, immediately after changing to a fine blue. Mr. Atkinson.

*Sea Bugloss. Sea Lungwort.* On sandy shores. [Near Maryport, Cumberland, Mr. Harriman.—About Aberdeen. Mr. Browne.—West shore of the Isle of Walney. Mr. Atkinson.] P. July.

* When burnt it is said to afford a larger quantity of ashes than almost any other vegetable, often 1-7th of its weight. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it.—The *Chrysomela nemorum* feeds upon it.

SYMP'HYTUM. *Bloss.* funnel-shaped, bellying towards the top; mouth closed by hollow radiate valves, which have an open hole on the outside near the border: *nuts* 4, perforated.

officina'le. S. Leaves egg-shaped, decurrent.

*Ludw.* 80–*Kniph.* 1–*Curt.* 230–*E. bot.* 817–*Woodv.* 215–*Fl. dan.* 664–*Blackw.* 252–*Matth.* 961–*Dod.* 134. 1–*Lob. obs.* 315. 1–*Ger. em.* 806. 1–*Park.* 523. 1–*Ger.* 660. 1 *and* 2–*H. ox.* xi. 29. *row* 1. 1–*Pet.* 29. 5–*Fuchs.* 695–*Trag.* 240–*J. B.* iii. 593.

*Calyx* close. *Bloss.* yellow white, tube as long as the calyx. *Valves* spear-shaped, flat, covering the anthers; edge studded with small shining glands.

*Common Comfrey.* Banks of rivers and wet ditches. P. May.*

Var. 2. Red-flowered. Calyx expanding, shorter than the tube of the blossom.

*Kniph.* 1. *f.* 2.

Symphytum patens. Sibth. Fl. Oxon. who considers it as a distinct species. Frequently found growing with the preceding, and flowering at the same time.

tubero'sum. S. Leaves half decurrent; the uppermost opposite.

*Jacq. Austr.* 225–*Obs.* 63–*Kniph.* 1–*Clus.* ii. 166. 2–*Ger. em.* 806. 3–*H. ox.* xi. 29. *row* 1. 3–*J. B.* iii. 594.

Possibly a variety of the *S. officinale.* *Root* white, and not black on the outside as that of the preceding. LINN. *Root* tuberous. *Bloss.* yellow white.

*Tuberous rooted Comfrey.* [Fen Banks, Lincolnshire, and Cambridgeshire, intermixed with *Symphytum officinale.* WOODW.]

BORA'GO. *Bloss.* wheel-shaped; mouth closed with rays: *nuts* 4, not perforated.

officina'lis. B. All the leaves alternate: calyxes expanding.

*Kniph.* 3–*Ludw.* 3–*Fuchs.* 142–*Dod.* [illegible] –*Woodv.* 217–*E. bot.* 36–*Ger. em.* 797. [illegible] *Blackw.* 36–

* The particles of the Pollen app[illegible] two globules united together. The leaves gi[illegible] akes and panada, and the young stems and leaves [illegible] d. The roots are glutinous and mucilaginous, and [illegible] ised by dyers to extract the colouring matter of gum [illegible] at it. Horses, Goats, and Swine refuse it. LINN.

*Matth.* 1186–*Trag.* 237–*Ger.* 653. 2 *and* 1–*H. ox.* xi. 26. 1, *on the left*–*Lob. obs.* 309. 2–*Ger. em.* 797. 1.

Fruit-stalks terminating; supporting several flowers. Came originally from Aleppo; but now found in many parts of Europe. Bloss. blue, white, or flesh-coloured. LINN. Whole *plant* rough with numerous white prickly hairs. *Leaves* egg-spear-shaped. *Bloss. segments* spear-shaped; the *prominencies*, one rising from the base of each segment, brownish half egg-shaped. *Filaments* the portion above the insertion of the anthers cylindrical, dark blue, that below the insertion thick, brown and glandular. *Anthers* black.

*Common Borage.* Walls and amongst rubbish. [Banks of the river near Tavistock. Mr. KNAPPE. On the summit of a high rock at Llandrydno near Conway. Mr. DICKENSON.]

P. June—Aug.*

## ASPERU'GO. *Calyx*, when in fruit, the sides flat, parallel, indented.

A. Calyx when in fruit compressed. procum'bens.

*E. bot.* 667–*Kniph.* 3–*Fl. dan.* 552–*H. ox.* xi. 26. 13–*Ger.* 963–*Dod.* 356–*Ger. em.* 1122. 2–*Lob. obs.* 466. 2–*Garid.* 9–*J. B.* iii. 600. 2, *and* 601. 2.

*Stem* angular. *Leaves* mostly by threes, pointing upwards. WOODWARD. *Bloss.* small, blue.

*Trailing Catchweed.* In roads and amongst rubbish. [Churchyard, Newmarket. Mr. WOODWARD.] A. April, May.

## LYCOP'SIS. *Bloss.* tube crooked: mouth closed with scales: *nuts* 4, perforated.

L. Leaves spear-shaped, rough with hair: Calyx while in flower upright. arven'sis.

*Curt.* 336–*Kniph.* 3–*Fuchs.* 269–*Dod.* 628. 2–*Ger. em.* 799. 3–*J. B.* iii. 581–*H. ox.* xi. 26. 8–*Riv. mon.* 7. 2–*Fl. dan.* 435–*Blackw.* 234–*Trag.* 234.

An extremely harsh, rough, and bristly plant. *Stems* thick, cylindrical. *Leaves* sometimes nearly strap-shaped, sometimes nearly egg-shaped; waved at the edge, and somewhat toothed. *Calyx segments* sometimes spear-shaped. *Bloss.* sky blue.

* By the experiments of Mr. Marggraff, *Mem. de Berlin*, 1747, p. 72, it appears that the juice affords a true nitre.—It is now seldom used inwardly but as an ingredient in cool tankards for summer drinking, though the young and tender leaves are good in sallads, or as a pot-herb. It affords nourishment to the *Phalæna Gamma*.—A horse eat it. Dr. STOKES.

*Wild Buglass.* Corn fields and road sides. [Corn fields about Ulverstone, but not common. Mr. GOUGH.—Sometimes on dunghills, when the leaves are often 1½ inch broad. Dr. STOKES.] A. June—Sept.

## E'CHIUM. *Bloss.* irregular; mouth naked; *nuts* 4, large, rough, imperforated.

ital'icum. E. Stem upright, hairy: spikes hairy: segments of the blossoms nearly equal: stamens extremely long.

*Jacq. austr. app.* 16–*Dod.* 631. 2–*Lob. obs.* 312. 1–*Ger. em.* 802. 1–*H. ox.* xi. 27. 6–*Park.* 519–*J. B.* iii. 588. 1–*J. B.* iii. 584. 2. *is referred to by Ray, but it seems the * of Linn. who regards our plant as a variety of the true E. italicum.*

*Bloss.* invariably white. HALL.

*Wall Viper-grass.* Sandy meadows and pastures. On the sandy ground near St. Hilary, Jersey. P. HUDS. A. RAY. I have not been able to procure any specimen of this plant. Botanists who have an opportunity would do well to search for it in Jersey.

vulga're. E. Stem rough with bristles and tubercles: stem leaves spear-shaped, rough with hair: flowers in lateral spikes.

*E. bot.* 191–*Kniph.* 1–*Fl. dan.* 445–*Riv. mon.* 7. 1–*Blackw.* 299–*Matth.* 996–*Dod.* 631. 1–*Lob. obs.* 312. 2–*Ger. em.* 802. 2–*Park.* 414. 1–*H. ox.* xi. 27, *row* 3. 1–*Matth.* 892.

*Root-leaves* near 2 feet long, strap-shaped. *Flowers* numerous, in reflected spikes; those of each spike pointing one way, and closely wedged together. *Bloss.* before it expands of a fine red, afterwards of a bright blue. *Stamens* much longer than the blossom.

*Common Viper-grass.* Sandy corn fields, walls and on rubbish. [Particularly on the clay or schistus thrown out of coal mines.] B. June—Aug.*

viola'ceum. E. Stem flaccid, rough with strong hair[illegible] as long as the stamens, scored, h[illegible] than the calyx: filaments and style [illegible]

* Cows and sheep are not fond of it. [illegible] use it. Bees are fond of the flowers. LINN.—But gi[illegible] strong hairs. SCOP.

*Clus.* ii. 164. 2–*Ger. em.* 802. 4–*J. B.* iii. 589. 1–*H. ox.* xi. 27. 2, *referred to by Linn. but the stamens are longer than the bloss. and Clus. describes the bloss. as red.*

Whole *plant* smaller, more slender, weak, and hairy than *E. vulg.* but the hairs softer, some of them rising from tubercles. The *tubercles* hardly, if at all, discernible on the *leaves*; though they are on the *stem*, where they are intermixed with short hairs not rising from tubercles. *Calyx* very unequal. *Bloss.* unequal, smaller than those of *E. vulg.* deep blue. *Stamens* always within or just even with the blossom. Mr. WOODWARD. *Hairs* not rising from tubercles. *Bloss.* not red on the first day of appearance, as in *B. vulg.* but uniformly of a pale blue. MURR. *prod.* 143. The English species of Echium, as enumerated by Ray and Hudson, are not yet sufficiently ascertained.

Banks and corn fields. Near Norwich. WOODWARD. Aug.

## PRI'MULA. *Bloss.* tube cylindrical; mouth open; *stem* within the tube: *caps.* 1-celled, cylindrical, many-seeded, opening with 10 teeth; summit a knob.

P. Leaves wrinkled, toothed; border of the blossom flat. vulga'ris.

*Curt.–Sheld.* 11–*Fl. dan.* 191–*E. bot.* 4–*Walc.–Blackw.* 52 –*Clus.* i. 302. 1–*Dod.* 147. 3–*Lob. obs.* 305. 4–*Ger. em.* 781. 5–*Park.* 535. 1–*H. ox.* v. 24. 8 *and* 9–*Park. par.* 243. 1–*Col. phytob.* 6. 1.

It has a *common stalk*, but it is exceedingly short, and is concealed beneath the surface of the ground, so that the stalks which support the flowers are only elongated little fruit-stalks. LINN. This is sometimes but not always the case, as Mr. Aikin observed to me, and Mr. Curtis tells us, that by cultivation it may be brought to throw up a long common fruit-stalk like the Oxlip; which countenances the idea of the latter being a variety of this. Leaf-stalks when fully grown longer than the leaves.

*Primula veris acaulis.* LINN. *Primula sylvestris* SCOP. *Primula vulgaris.* HUDS. *Common Primrose.* Woods, hedges, thickets, and heaths, [particularly in a clayey soil.]

P. April, May.*

* Gerard reports that a dram and a half of the dried roots taken up in autumn, operates as a strong but safe emetic. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it. LINN. Silk worms may be fed with the leaves. *Trans. of Soc. of Arts*, ii. *p.* 157. Both this and the Garden Polyanthus have roots which bear what the florists call pin-eyed flowers, and other roots bearing only rose-eyed flowers. In the pin-eyed flower the pistil and its summit reach nearly to the mouth of the tube, so that the anthers which are placed lower down are invisible, whilst in the rose-eyed the anthers are uppermost.

Var. 2. Liver-coloured. Blossoms a red liver colour.
Hedge banks and pastures, between Penzance and Treveylea, Cornwall. May.

ela'tior. P. Leaves wrinkled and toothed: stalk many-flowered: outermost flowers drooping: border of the blossom flat.

*E. bot.* 513–*Kniph.* 1–*Fl. dan.* 434–*Fuchs.* 851–*J. B.* iii. 496. 2–*Clus.* 301. 2–*Dod.* 147. 1–*Lob. obs.* 305. 3–*Ger. em.* 780. 2–*Ger.* 635. 1–*Col. phytob.* 6. 2.

*Bloss.* pale yellow; diameter of the border more than the length of the tube. Leaf-stalks shorter than the leaves.

*Primula.* HALL. *n.* 609. *Primula veris elatior.* LINN. *Vulgaris* β HUDS. *ed.* II. *Veris* β *ed.* I. *Oxlips. Great Cowslips. Oxlip Primrose.* Woods, hedges, and sometimes pastures. [Clayey pastures, Suffolk. Mr. WOODWARD. High pastures, near Little Wenlock, Shropshire.] P. April, May.

Dr. SMITH thinks it possible that the Oxlip may be a hybrid production between the common Primrose and the Cowslip, or that, if a variety, it rather belongs to the former than the latter. In its long common fruit-stalk it resembles the Cowslip, in its scentless flowers and the expanded border of the blossom it agrees with the Primrose.—Mr. TURNER says he has specimens in which both the Primrose and Oxlip are produced from the same root.

officina'lis. P. Leaves wrinkled and toothed: stalk many-flowered; all the flowers drooping: border of the blossom concave.

*E. bot.* 5–*Kniph.* 3–*Ludw.* 43–*Fl. dan.* 433–*Blackw.* 226–*Walc.*–*Curt.* 67–*Fuchs.* 850–*Clus.* i. 301. 1–*Lob. obs.* 305. 1–*Ger. em.* 780. 1–*Trag.* 201–*Ger.* 635. 2.

Leaf-stalk often longer than the leaves, which is not the case in the Primrose or Oxlip. *Bloss.* sweet-scented, full yellow, with an orange blotch at the base of each segment; contracted about the middle of the tube, where the stamens are inserted.

*Primula veris officinalis.* LINN. *Veris.* HUDS. *Pagils. Paigles. Cowslips. Cowslip Primrose.* Meadows and pastures in loamy or clayey soil. P April, May.*

farino'sa. P. Leaves scolloped, smooth: [illegible] blossom flat.

* The blossoms are used for making [illegible] leaves are sometimes eaten as a pot-herb, and in salla[illegible] scent, like anise.—Silk worms are fond of the [illegible] *Trans. of Soc. of Arts*, ii. *p.* 157.

*Dicks. h. s.*–*E. bot.* 6–*Curt.*–*Fl. dan.* 125–*Walc.*–*Gmel.* iv. 44. 2 *and* 3–*Kniph.* 9–*Ger.* 639. 2 *and* 1–*Clus.* i. 300. 1–*Lob. obs.* 307. 2–*Ger. em.* 783. 1–*H. ox.* v. 24. *row* 2. 5 *and* 6–*Clus.* 300. 2–*Lob. obs.* 307. 1–*Ger. em.* 783. 2–*J. B.* iii. 498. 3. *ib.* 3. 6–*H. ox. ib.* 7–*J. B. ib.* 2. *Swert.* ii. 4. 9–*Park. par.* 243. 10.

*Fruit-stalks* and *calyx* as if dusted with flour. LINN. *Leaves* mealy underneath. *Bloss.* bluish red.

*Bird's-eye, Bird's-eyn. Bird's-eye Primrose.* Marshes and bogs on mountains in the north. RAY. WOODWARD. [Meadows near Kendal in the richest profusion. ST. Wet places near Darlington. Mr. ROBSON.—Covering whole meadows with a fine pinky colour, about Connistone, and other parts of Craven, Yorkshire. Mr. CALEY.] P. May.

## CY'CLAMEN. *Bloss.* wheel-shaped, reflected; tube very short; mouth projecting; *recept.* fleshy, supporting a berry inclosed in a case.

C. Blossom bent back as if broken: leaves circular, scol- europæum.
loped.

*Jacq. austr.* 401–*E. bot.* 548.–*Black.* 147–*Fuchs.* 451–*Miller,* 115–*Ger.* 694–*Dod.* 337–*Lob. ic.* 605–*Ger. em.* 843–*Park.* 1364–*Kniph.* 3–*Cam. epit.* 357.

*Leaves* greatly varying from round to angular. *Bloss.* purplish pink.

Mr. Woodward assures me it has lately beeen found wild in Suffolk, and Gerard mentions it as growing in Wales and in Lincolnshire and Somersetshire. P. April, May.

## MENYAN'THES. *Bloss.* hairy or fringed: *nect.* 5 at the base of the germen: *summit* 2-lobed: *caps.* 1-celled.

M. Leaves heart-shaped, very entire: blossom segments nymphoi'des.
bordered, fringed with teeth.

*E. bot.* 217–*Fl. dan.* 339–*Tourn.* 67–*J. B.* iii. 772. 1–*Pet.* 71. 4.

*Leaves* heart-shaped at the base, rounded at the end; sometimes spotted. *Blossom* yellow.

*Fringed Water Lily. Fringed Buckbean.* Large ditches and slow streams. Found by Lord LEWISHAM, in the Thames near Walton Bridge. E. bot. Lake at Castle Howard, Yorkshire. TEASDALE. [In the Isis near Oxford; particularly at Ferry Hinksey. Mr. BUTT.] P. July, Aug.

trifolia'ta. M. Leaves growing by threes: blossom segments entire at the edge, shaggy on the upper surface.

*Curt.* 240–*E. bot.* 49?–*Fl. dan.* 541–*Blackw.* 474–*Woodv.* 5–*Ger.* 1024. 1 *and* 2–*Dod.* 580–*Lob. obs.* 496. 2–*Ger. em.* 1194–*Park.* 1212–*H. ox.* xv. 2. *row* 2, 1*st figure on the left hand.*

*Leaves* spear-egg-shaped. *Bloss.* pinky and white, forming a spike-like bunch, with a floral-leaf at the base of each pedicle. One of the most beautiful of all our native flowers.

*Marsh Trefoil. Water Trefoil. Marsh Cleaver. Trefoil Buckbean.* Ponds and pits frequent. [Abundant in pits near Ranton Abbey, Staffordsh.] P. June, July.*

## HOTTO'NIA. *Bloss.* salver-shaped: *stam.* fixed to the top of the tube: *summit* globular: *caps.* 1-celled, globular.

palus'tris. H. Fruit-stalks in whirls, many-flowered.

*Dicks. h. s.–Curt.* i. 4–*E. bot.* 364–*Fl. dan.* 487–*Matth.* 1168–*Dod.* 584. 2 *and* 3–*Lob. obs.* 460. 2–*Ger. em.* 826. 1 *and* 2–*Park.* 1256. 4–*Ger.* 678. 1–*Gisek.* 43.

*Foliage* under water as in *Myriophyllum.* Spike of the flowers alone rising above. LINN. Some *flowers* have 6 stamens, and then the cup and the blossom are divided into 6 segments.

Whether we consider the lightness of its elegantly winged leaves, or its whirled spikes of lilac-coloured blossoms, it is certainly superior in beauty to the greater part of our indigenous plants.

*Water Violet. Water Yarrow. Water Gilliflower.* Ponds and ditches. [Several places near Stratford, Essex. Mr. JONES.—Between Ormskirk and Liverpool. Dr. STOKES.—Road sides from Litchfield to Barton. Mr. PITT.—Ditches, Suffolk, frequent. Mr. WOODWARD.—In a pit by the foot road from Wellington, in Shropsh. to Leegomery.] P. June, July.

* An infusion of the leaves is extremely bitter, and is prescribed in rheumatisms and dropsies. A dram of them in powder purg[illegible] and vomits. It is sometimes given to destroy worms. In [illegible] of hops this plant is used in the north of Europe to b[illegible] ounces supply the place of a pound of hops. [illegible] dried leaves. The powdered roots are sometime[illegible] d of bread, but they are unpalateable. Some people [illegible] eat it, and that it cures them of the rot. But from [illegible] it appears, that though goats eat it, sheep somet[illegible] [illegible]ues will not. Cows, horses, and swine refuse it.

LYSIMA'CHIA. *Bloss.* wheel-shaped: *caps.* globular, dagger-pointed; of 1 cell, 5 valves, and many seeds.

(1) *Fruit-stalks many-flowered.*

L. Panicled: bunches terminating. vulga'ris.

*Curt.* 288–*E. bot.* 761.–*Blackw.* 278–*Kniph.* 7–*Clus.* ii. 50. 2–*Dod.* 84–*Ger. em.* 474. 1–*Park.* 544. 1–*H. ox.* v. 10. 14–*Matth.* 949–*Fl. dan.* 689–*Fuchs.* 492–*Trag.* 183.

*Leaves* smooth, or wooly, in pairs or in threes, nearly sitting, spear-shaped, waved at the edge. *Cal.* and *bloss.* sometimes with 6 divisions. *Filaments* broad and united at the base into a cylinder inclosing the germen. *Flowers* yellow.

*Yellow Willowherb. Yellow Loosestrife.* Banks of rivers and shady marshes. [By the side of the Avon at Pershore. M. BALLARD.—Moist situations in Hampshire, common. Mr. PITT.]

P. June, July.

L. Bunches lateral, on fruit-stalks. thyrsiflo'ra.

*E. bot.* 176–*Fl. dan.* 517–*Clus.* 53. 1–*Ger. em.* 475. 3–*Baier. epist. at p.* 91, *and* 162, *f.* 1–*Clus.* 53. 2–*Park.* 544. 3–*J. B.* ii. 904. 2–*Dod.* 607. 1.

*Lateral branches* in an upright plant is a peculiar circumstance. *Bloss.* divided almost to the base, with very short teeth interposed; *segments* marked at the end with tawny dots. LINN. *Stem* never branched. WEBER. Hardly a foot high. *Leaves* opposite, sitting, spear-shaped, half embracing the stem. *Bloss.* yellow, segments with red dots. The number of the stamens, of the segments of the cup, and of the blossom, varies from 5 to 8.

*Tufted Loosestrife.* [Marshes and banks of rivers, near King's Langley, Hertfordshire. In a bog near Severus's Hills, near York. Dr. WHITE.—But the bog having been since drained, it is no longer to be found there, as the Doctor informs me. Dr. SMITH.]—Anglesea. P. June.

(2) *Fruit-stalks* 1-*flowered.*

L. Leaves egg-shaped, acute: flowers solitary: stem trailing. nemo'rum.

*Curt.* 328–*E. bot.* 527–*Fl. dan.* 174–*Clus.* ii. 182. 2–*Lob. obs.* 248. –*Ger. em.* 618. 4–*Park.* 558. 5–*H. ox.* v. 26. *row* 2. 1 2–( . 494. 3.

*Stem* cylindrical. *Cal.* segments very slender. *Bloss.* yellow, much smaller than the leaves.

*Yellow Pimpernell of the Woods, Pimpernell Loosestrife.* Moist shady places. P. May, June.

nummula'ria. L. Leaves somewhat heart-shaped: flowers solitary: stem creeping.

*E. bot.* 528–*Ludw.* 148–*Curt.* 149–*Kniph.* 8–*Fl. dan.* 493–*Blackw.* 542–*Walc. Trag.* 808–*Fuchs.* 401–*J. B.* iii. 371. 1–*Ger.* 505. 2–*Matth.* 1013–*Dod.* 600. 2–*Lob. obs.* 251. 1–*Ger. em.* 630. 1.–*Park.* 555. 1–*Park.* 555. 1. (6) –*H. ox.* v. 26. *row* 1. 1, *Nummularia–Ger.* 505. 1.

*Stem* compressed, with 4 membranaceous edges. *Cal.* segments spear-shaped. *Bloss.* yellow, as large as the leaves.

*Moneywort. Herb Twopence. Moneywort Loosestrife.* Moist meadows. [Near a brook which crosses the Meriden road about two miles from Birmingham.] P. June.

## ANAGAL'LIS. *Bloss.* wheel-shaped: *caps.* cut round; of 1 cell, and many seeds.

arven'sis. A. Leaves egg-spear-shaped: stem trailing: calyx segments spear-shaped.

Var. 1. Blossoms scarlet.

*E. bot.* 529–*Kniph.* 6–*Curt.* 1. 1–*Fl. dan.* 88–*Trag.* 388–*Blackw.* 43–*Fuchs.* 18–*J. B.* iii. 369. 2–*Dod.* 32. 1–*Lob. obs.* 247. 2–*Ger. em.* 617. 1–*Park.* 558. 1–*Walc.*–*H. ox.* v. 26. *row* 2. 5–*Matth.* 621–*Ger.* 494. 1.

*Male Pimpernel. Common Pimpernel.* Cornfields and sandy places, not uncommon. A. May—Aug.

Var. 2. Blossoms blue.

*Blackw.* 274–*Fuchs.* 19–*J. B.* iii. 369. 1–*Clus.* ii. 183. 1–*Dod.* 32. 2–*Lob. obs.* 248. 1–*Ger. em.* 617. 2–*Matth.* 622.

*Female Pimpernel.* Between Stockwell and Camberwell. Huds. Bredon Hill, in a cornfield at the top of Overbury Wood, Worcestershire, Nash. [Dawlish, Devon. also between Bath and Bradford. Mr. Martyn.]—A. *cerulæa.* Schreb. and Gmel. *syst. veg.*

It is also said sometimes to have white flowers with a purple eye. *Leaves* dotted underneath; mostly [illegible] 4 together. *Fruit-stalk* not twice the length [illegible] *ments* united at the base. *Caps.* marked [illegible] the seams of so many valves, but it always [illegible] ly into 2 parts.

Every part of this plant is singularly [illegible] will amply repay the trouble of a minute exami[illegible]

A. Leaves egg-shaped, rather acute: stem creeping, striking root at the joints. tenel'la.

*Dicks. h. s.–Curt.* 187–*E. bot.* 530–*Fl. dan.* 1085–*H. ox.* v. 26. *row* 1. 2–*Ger. em.* 630. 3–*Park.* 554. 2–*J. B.* iii. 371. 2.

*Leaves* not dotted underneath; egg-shaped, or heart-shaped, or circular. *Fruit-stalks* more than twice the length of the leaves. *Bloss.* pale purplish red, each segment marked with 7 darker streaks.

*Purple-flowered Moneywort. Bog Pimpernel.* Wet heaths, meadows, and turfy bogs.—[In Suffolk, frequent. Mr. Woodward.—Tittensor Hills, and Cannock Heath, Staffordshire. St.—Upper pool at Soho, in the turf by the side. Needwood Forest, Staffordsh.] P. July, Aug. Sept.

AZA'LEA. *Bloss.* bell-shaped: *stem* fixed to the receptacle: *caps.* 2 to 5-celled: many-seeded.

A. Branches spreading wide, and trailing. procum'bens.

*Linn. lapp.* 6. 2–*Clus.* i. 75. 3–*J. B.* i. α 527–*Jonst.* 116. 8–*Fl. dan.* 9–*Penn. tour in Scotl.* ii. 5, *p.* 43.

*Flowers* bright red. Lightf.

*Trailing Rosebay.* Highland mountains, on dry barren ground, near their summit. [Ben Lomond near the top. Found there first by the Rev. Mr. Stuart, of Luss. Dr. Smith. In abundance on Ben Bourde, on Lochain y Gair near Invercauld: more sparingly on Ben Lawers, Ben Teskerney, and on Malghyrdy. Mr. Brown.]

CONVOL'VULUS. *Bloss.* bell-shaped, plaited: *nect.* surrounding the base of the germen: *summits* 2: *caps.* 2 or 3-celled, 2 seeds in each.

(1) *Stem twining.*

C. Leaves arrow-shaped, acute on each side: fruit-stalks bearing generally 1 flower. arven'sis.

*Curt.* 119–*Kniph.* 12–*Fl. dan.* 459–*Walc.–Fuchs.* 258–*J. B.* ii. 157–*Trag.* 806–*Ger.* 712. 2–*Clus.* ii. 50. 1–*Dod.* 393–*Lob. obs.* 340. 2–*Ger. em.* 861. 2–*Park.* 171. 2–*H. ox.* 1. 3. 9.

*Bloss.* flesh-coloured, or almost white, or striped, or purplish.
*Small Bindweed.* Corn fields and road sides. P. June, July.

Var. 2. Leaves arrow strap-shaped.

*Pluk.* 24. 3.

Both leaves and flowers smaller.
Between Harleston and Eversden, Cambridgeshire. RAY.

Var. 3. *Bloss.* very small, almost divided to the base.
Near Maidstone. RAY.

se'pium. C. Leaves arrow-shaped, lopped at the base: fruit-stalk 4-cornered, bearing 1 flower.

*E. bot.* 313–*Curt.*–*Fl. dan.* 458–*Sheldr.* 56–*Blackw.* 38–*Kniph.* 12–*Dod.* 392–*Lob. obs.* 340. 1–*Ger. em.* 861. 1–*Park.* 163. 3–*H. ox.* i. 3. 6–*Ger.* 712. 1–*Fuchs.* 720–*J. B.* ii. 154–*Trag.* 805–*Blair.* 4. 3–*Swert.* ii. 14. 8–*Walc.* 5.

Edges of the leaves brown. Bloss. white. LINN. Floral leaves 2, close to the cup, whilst in the preceding species they are at some distance below it. The large size of its fine milk white blossoms makes it a beautiful ornament to our hedges.

*Great Bindweed.* Moist hedges. P. July, Aug.*

(2) *Stem not twining.*

Soldanel'la. C. Leaves kidney-shaped: fruit-stalks with 1 flower.

*E. bot.* 314–*Matth.* 469–*Dod.* 395–*Lob. obs.* 329. 2–*Ger. em.* 838. 1–*Park.* 168. 2. 6–*H. ox.* i. 3. 2–*Ger.* 690.

*Stems* in open ground short, and lying flat, taking a semicircular direction; but among bushes growing to some length unbranched, bearing no flowers. *Leaves* sometimes heart-shaped. *Leaf-stalks* long. Mr. WOODWARD. *Blossoms* red. At some distance from the sea, not above half the usual size, but the plant in other respects the same.

*Scottish Scurvy Grass. Sea Colewort. Sea Bindweed.* Sea shore. [Norfolk coast, frequent. Mr. WOODWARD. Walney isle. Mr. DALTON.—Near the sea coast, Cornwall.] P. July.†

* The inspissated juice of the plant, in doses of 20 and 30 grains, is a powerful drastic purge. Scammony is the inspissated juice of a species of Convolvulus so much resembling this, that they are with difficulty distinguished. Though an acrid purgative to the human race, it is eaten by Hogs in large quantities without any detriment. S[illegible]us, and horses eat it. Cows refuse it.

† Half an ounce of the juice, or a dr.[illegible] an acrid purge. The leaves applied externally a[illegible]ical swellings of the feet. The different specie[illegible] the *Sphinx convolvuli* and *Phalæna Elpenor.*

POLEMO'NIUM. *Bloss.* wheel-shaped, with 5 divisions: *filaments* broad and membranaceous at the base: *summit* 3-cleft: *caps.* 3-celled, opening at the top: *seeds angular.*

P. Leaves winged: flowers upright: calyx longer than the cœruleum. tube of the blossom.

*E. bot.* 14–*Kniph.* 5–*Tourn.* 61. 1–*Fl. dan.* 255–*Dod.* 352. 1–*Lob. obs.* 412. 1–*Ger. em.* 1076. 5–*Park.* 123. 12–*J. B.* iii. 212. 2–*Ger.* 918. 5–*Swert.* ii. 28. 3.

*Little leaves* egg-spear-shaped; 11 pair or more on each leaf. *Bloss.* blue, sometimes white.

*Greek Valerian. Ladder to Heaven. Common Jacob's Ladder.* [Malham Cove, Yorkshire, RAY. Mr. WOOD. And at the Lover's Leap, Buxton. Mr. WOOD.—Near Bakewell. Mr. WHATELY.—Gordale, Yorkshire. Mr. GOUGH.] P. June.

CAMPA'NULA. *Bloss.* bell-shaped: *filaments* broad and arched at the base: *summit* 3-cleft: *caps.* beneath; 3-celled; opening at 3 lateral holes.

(1) *Leaves smoother and narrower.*

C. rotundifolia. Root-leaves kidney-shaped; stem-leaves strap-shaped, very entire.

*Curt.* 226–*Fl. dan.* 1086–*Walc.*–*Clus.* ii. 173–*Dod.* 167–*Lob. obs.* 178. 1–*Ger. em.* 452. 3–*Park.* 651. 11–*H. ox.* v. 2. 17–*J. B.* ii. 810. 1, *and* 796–*Ger.* 367. 3–*Allioni.* 47. 2.

Unless the root-leaves be carefully searched for, they will hardly be observed, and then the plant may easily be mistaken for the C. patula. *Stem* round and smooth. Root-leaves sometimes entire, sometimes notched, varying from kidney to heart-shaped. *Stem-leaves* varying from strap-spear-shaped to thread-shaped, and the broader ones sometimes with a few serratures. *Bloss.* blue, purple, or white.

*Round-leaved Bell-flower.* Heaths, road sides, and hedge banks, barren pastures, mostly in a dry soil. P. Aug.—Oct.

Var. 2. Single flowered.

*Fl. dan.* 189.

Root-leaves heart-shaped, very entire; stem-leaves spear-shaped.

Highest mountains of Wales and Westmoreland. HUDS. Hill of Moncrief, near Perth. LIGHTF. [Skiddaw, Mr. WOODW.]

pa'tula. C. Leaves stiff and straight: root-leaves spear-egg-shaped: panicle expanding.

*E. bot.* 42–*Dill.* 58. 68–*Fl. dan.* 373.

*Stem* with 5 corners and 5 flat sides, roughish with short hairs, containing a milky juice. *Leaves* sometimes toothed, sometimes finely serrated. Cup segments towards the base serrated with minute teeth, but my specimens do not shew the livid tooth on each side the base mentioned by Linnæus. *Bloss.* conical, larger, more of a reddish purple than in the preceding species, more expanded at the mouth, segments curved backwards, and each marked with 3 lines. Whether the plant be in flower or not, these observations are at all times sufficient to discriminate it from the C. *rotundifolia*.

*Field Bell-flower.* Woods, hedges, corn fields, and road sides, in a moist soil. [Borders of Buddon Wood, near Loughborough; between Lichfield and Meriden; and about Worcester. Huds. And Malvern. Nash.—Near the Bath at Lichfield; and on the road to Coleshill. Mr. Woodward. On the road side in a wet lane in the village called Water Orton. Near Hagley on the Kidderminster road, plentiful. On the left hand side of the Meriden road about six miles from Birmingham.] B. July, Aug.

Rapun'culus. C. Leaves waved: root-leaves spear-oval: panicle compact.

*Fl. dan.* 855–*E. bot.* 283–*Kniph.* 11–*Dod.* 165. 1–*Lob. obs.* 178. 2–*Ger. em.* 453–*Park.* 648. 1–*H. ox.* v. 2. 13.–*Fuchs.* 214–*J. B.* ii. 795–*Ger.* 869. 2–*Trag.* 727.

*Fruit-stalk* generally growing by threes, the middle one the longest. Linn. Resembles the C. patula in the roughness of its angular stem, its milky juice, the size of its blossoms, and the 3 lines on their segments, but may be distinguished from it by the flowers and fruit-stalks being nearly upright, not expanding, by the segments of the calyx being bristle shaped, not spear-shaped, and by the stipulæ on the fruit-stalks being very slender and half the length of the fruit-stalk, whilst in the C. patula they are spear-shaped and short. *Bloss.* purplish blue, sometimes very pale.

*Rampions.* Hedge-banks, fallow fields. Near Croydon. Huds. [Old Buckingham Castle, Norfolk. Mr. Pitchford. Hindlip, Worc. St. and Enville, Staffordsh.] B. July, Aug.*

(2) *Leaves rougher and broader.*

latifo'lia. C. Leaves egg-spear-shaped: stem [illegible] cal: flowers solitary, on fruit-st[illegible] ing.

* The roots are eaten raw in sallads, or boil[illegible] Gardens they are blanched.

*E. bot.* 302–*Fl. dan.* 782–*Clus.* ii. 172. 1–*Ger. em.* 448. 3–*Park.* 643. 1–*H. ox.* v. 3. 27.

Sometimes 4 feet high, and very strong in its growth. *Stem* smooth. *Leaves* either spear-shaped or egg-spear-shaped, almost sitting, rough with hairs, irregularly serrated. Flowers upright, but the fruit-stalk when ripe bent downwards; and the calyx becomes large and globular at the base from the distension of the inclosed capsule. *Bloss.* blue or pale red.

*Broad-leaved Bell-flower. Giant Throatwort.* Thickets and hedges. Mountainous parts of the Northern Counties. RAY. [Clayey parts of Suffolk. WOODWARD. Woods about Manchester. Mr. CALEY. On banks of marle at Burton, a mile S. of Stafford. On the road from Hales Owen Abbey to Birmingham, a mile from the former, on a shivery sand rock.] P. July, Aug.*

C. Stem angular: leaves on leaf-stalks: cups fringed: fruit-stalks 3-cleft. trache'lium.

*Fl. dan.* 1026–*E. bot.* 12–*Clus.* ii. 170. 2–*Dod.* 164. 1–*Lob. obs.* 176. 2–*Ger. em.* 448. *n.* 1–*Ger.* 364. 1–*Fuchs.* 432–*Trag.* 927–*J. B.* ii. 805. 2–*H. ox.* v. 3. 28–*Swert.* ii. 16. 4. 5.

*Stem* branched, hairy and membranaceous at the corners. *Leaves* heart-spear-shaped, upper ones sitting, lower ones on leaf-stalks. Mr. Woodward has sometimes observed 2 flowers on a fruit-stalk in the C. latifolia, and only 1 on the C. trachelium, and Dr. Stokes has found the calyx in the latter almost without hairs, as represented in Sowerby's fig. in E. bot. 12; so that the Linnæan characters are hardly sufficient in all cases to discriminate these 2 species; but the membranaceous angles of the stem, and the different heart-spear-shaped leaves of the C. trachelium are at all times sufficient to distinguish it from the C. latifolia. *Bloss.* hairy within: blue, sometimes pale red; not unfrequently double, and when this is the case the stamens and nectaries are wanting.

*Great Throatwort. Canterbury Bells. Nettle-leaved Bell-flower.* Woods and hedges. P. July, Aug.

Very common in our garden. The juice a dirty yellow.

C. Stem angular, not branched: flowers sitting: mostly terminating. glomera'ta.

*E. bot.* 90–*J. B.* ii. 801. 2–*Clus.* ii. 171. 1–*Dod.* 164. 2–*Lob. obs.* 176. 3–*Ger. em.* 449. 4–*Park.* 644, *fig.* 4th–

* The beauty of its flowers frequently procures it a place in our gardens. The whole plant abounds with a milky liquor. Horses, sheep, and goats eat it. The young shoots stripped of the skin are boiled and eaten as greens, about Kendal. Mr. GOUGH.

*H. ox.* v. 4. 40 & 43–*Herm. par.* 235–*Thal.* 8. 2–*Barr.* 523. 3.

*Leaves* egg-oblong, sitting, bluntish. One flower in the bosom of each of the three upper leaves, the others forming a terminating cluster. LINN. *Root* perennial, branched, fibrous. *Stem* generally 8 or 10 inches high. *Leaves* spear-shaped, hairy, somewhat serrated; the lower leaves on the larger plants on long leaf-stalks, and sometimes heart-shaped at the base. *Calyx* segments hairy, sometimes toothed. *Bloss.* blue, or white; no unfrequently both on the same plant; hairy within. *Stamen* either 4 or 5. *Style* long, woolly, slightly cloven either into 2 or 3 fleshy, villose, spear-shaped summits.

Few plants vary more than this both in size and in habit. In general it is from 1½ to 1 foot high, hairy and dry; but in the wet climate of Kendal Mr. Gough has observed it 2 feet high with a trailing stem, green, and but little hairy. On the other hand, when growing on a high and very dry soil, as on the summit of Aston Down in the Isle of Wight, it is only from 1 to 2 inches high (see Pl. 11. f. 8.) can scarcely be said to have a stem; bears only 1 or 2 flowers, with 4 stamens and frequently but 2 summits. The examination of two imperfect specimens of this kind erroneously led me to think it a Gentian. Not being able to procure more specimens, and unwilling to cut up the only tolerable one I had, this error appeared in the last edition of the arrangement; but in the summer following Mr. Watt brought me a series of specimens from the Isle of Wight from 1 to 10 inches high, which convinced me of my mistake, and soon afterwards Mr. Turner informed me that on barren Limestone Hills in Norfolk it grows equally diminutive; though the blossom as he observes, is as large as in the largest specimens, which he has sometimes seen above two feet high.

*Little Throatwort*, or *Canterbury Bells. Clustered Bell-flower.* Mountains and chalky pastures. [Near Pontefract, Mr. T. F. HILL.—Chalk Hills, in Norfolk, Mr. WOODW. and Surry; and between Grantham and Wilham Common. ST. On the Fife and Angus coast, not unfrequent. Mr. BROWNE.] P. July.

(3) *Capsules covered by the reflected segments of the calyx.*

hedera'cea. C. Leaves heart-shaped, 5-lobed, on leaf-stalks, smooth: stem feeble.

*Dicks. h. s.–E. bot.* 73–*J. B.* ii. 797–*H. ox.* v. 2. 18–*Pluk.* 23. 1–*Pet. Gaz.* 51. 2–*Fl. dan.* 330.

*Stems* thread-shaped, trailing, matted together, in patches of a foot diameter. Mr. WATT. Lower *leaves* heart or kidney-shaped, nearly entire. Mr. WOODWARD. *Leaves* with 5 to 8 teeth, but not properly lobed. Mr. STACKHOUSE. The delicacy

and transparency of this elegant little plant sufficiently separate it from all our other species. *Bloss.* pale blue.

*Ivy-leaved Bell-flower.* Moist shady places. [About springs and rivulets in Cornwall, very frequent. Mr. WATT. Woods in Oxfordshire. Mr. NEWBERRY. Roxborough Common, near Plymouth, plentiful. Mr. KNAPPE.] P. May—Aug.

(4) *Capsules prism-shaped.*

C. Stem stiff and straight, somewhat branched at the base: leaves oblong, scolloped: cups incorporated, and longer than the blossom. hy'brida.

*E. bot.* 373–*Ger. em.* 439. 2–*Park.* 1331. 2–*H. ox.* v. 2. 22.

*Calyx* segments permanent, crowning the ripe capsule. Mr. WOODWARD. *Bloss.* purple; deeply divided. The great length of the capsule, and the segments of the calyx reaching above the top of the blossom, at once distinguish this from every other British Campanula.*

*Lesser Venus Looking Glass. Codded Corn Violet. Corn Bell-flower.* Chalky cornfields. [Bury and elsewhere in Suffolk, in chalky cornfields. Mr. WOODWARD.] A. July.†

PHYTEU'MA. *Bloss.* wheel-shaped, with 5 divisions; *segments* strap-shaped: *summits* 2 or 3-cleft: *caps.* beneath, 2 or 3-celled; a hole opening at the side of each.

P. Flowers in a roundish head: floral-leaves spear-strap-shaped, fringed. orbicula'ris.

*Dicks. h. s.–E. bot.* 142–*Jacq. austr.* 437–*Col. ecphr.* 224–*Barr.* 525–*Riv. mon.* 109. 1–*H. ox.* v. 5. 47–*Ger. em.* 455. 5.

About a foot high. *Root-leaves* heart-spear-shaped. *Bloss.* blue.

*Round-headed Rampion.* Chalky pastures. Downs of Sussex and Hampshire. Near Leatherhead. P. July, Aug.

* It appears that Linnæus had good reason for considering this as a plant having no very permanent character, for Mr. ROBSON, having sown it in his garden, it produced plenty of luxuriant plants which ripened their seeds; but these seeds the following year produced plants, the greater number of which were *C. speculum*, and the rest a sort of intermediate plant with smaller flowers than the latter, but larger than the former.

† *Phalæna exsoleta* feeds upon the different species of CAMPANULA.

LOBE'LIA. *Cal.* 5-cleft: *bloss.* 1 petal, irregular, divided lengthwise on the back: *anthers* somewhat united: *caps.* 2 to 5-celled; beneath.

Dortman'na. L. Leaves strap-shaped, very entire, containing 2 cells: stem almost naked.

*Dicks. h. s.–E. bot.* 140–*Fl. dan.* 39–*Lightf.* 21, *a. p.* 505–*Clus. cur.* 40–*Park.* 1250–*Pet.* 67. 7.

Whole *plant*, even the leaves beneath the water, milky. LINN. *Root* fibrous; fibres numerous, hair-like: *Stem* upright, cylindrical, hollow, smooth, 12 to 18 inches high, naked, except 3 or 4 oval sitting scales, about a quarter of an inch long. *Leaves* in a circle at the bottom of the water, numerous, about 2 inches long, bowed back at the end with an elegant curve, smooth, green, composed of 2 hollow parallel tubes. *Flowers* as many as 9 in a loose bunch, rising above the water, from one half to one inch asunder. *Fruit-stalks* slender, about half an inch long; from the bosom of a flower-scale. *Flower-scales* similar to the scales on the stem. *Cal.* divided into 5 strap-shaped segments. *Bloss.* pale blue, $\frac{3}{4}$ of an inch long; *upper lip* upright; *lower*, segments oval, bent back, the middlemost the largest and longest. WOODWARD.

*Water Gladiole. Cardinal flower.* Lakes in mountainous countries, as those of Wales, Westmoreland, Cumberland, and Scotland. [Coniston Water, Winandermere. Mr. WOODWARD.—Loch Lomond. Dr. HOPE.—White Meer, near Ellesmere. Mr. GRIFFITH.] P. July, Aug.

u'rens. L. Stem nearly upright: lower leaves roundish, scolloped: the upper spear-shaped, serrated: flowers in bunches.

*Curt.–Bocc. rar.* 11. 3–*H. ox. v.* 5. 56.

*Stem* straight, simple, a foot high, rather bare, the corners rough. *Root-leaves* elliptical, smooth, bluntish, somewhat toothed; *stem-leaves* far asunder, 8, sitting, as it were glued to at the base, sharply serrated, smooth, distant. *Bunch* terminating, quite straight. *Flowers* upright, distant. *Cal.* 5-cleft, rough; segments awl-shaped, upright. *Bloss.* blue, rough, the palate with 2 pale blotches; segments of the lower lip spear-shaped, hanging down. LINN. Whole *plant* milky, of a warm taste, and if chewed excites a pungent sense of burning in the tongue, BOCCON. especially the root. MORIS. II. 467. *n.* 56.

Mountainous meadows. [Shute Common, between Axminster and Honiton, Devonshire. Mr. NEWBERRY.] A. July, Aug.

SA'MOLUS. *Bloss.* salver-shaped: *stamens* protected by the valves of the blossom: *caps.* 1-celled; beneath; opening with 5 valves at the top.

S. Valeran'di.

*E. bot.* 703–*Fl. dan.* 198–*Kniph.* 4–*Curt.* 268–*Lob. obs.* 249. 1–*Ger. em.* 620. 3–*Park.* 1237. 5–*J. B.* iii. 792. 1–*H. ox.* iii. 24, 26, *and* 28.

Nearly a foot high. *Leaves* spear-egg-shaped, very entire. Spike-like bunch of flowers 2 to 4 inches long. *Bloss.* white.

*Round-leaved Water Pimpernell. Pimpernell Brookweed.* Marshes and moist meadows.—[In the large ditches leading from Poplar to the Isle of Dogs, opposite to Greenwich. Mr. JONES.—Side of the brook running from the brine pit on Defford Common, Worcestersh. Messrs. BALLARD and HOLLEFEAR.—Lord Shelburne's Park, near Calne, Wiltsh. Dr. STOKES.—Salt marshes about Lymington.] P. June, July.*

LONICE'RA. *Bloss.* 1 petal, tubular, irregular: *berry* beneath; 1 to 3-celled; many-seeded.

L. Heads egg-shaped, tiled, terminating: leaves distinct, deciduous: blossom gaping. Pericly'menum.

*Curt.* 1. 1–*E. bot.* 800–*Kniph.* 8–*Fl. dan.* 908–*Riv.* 122–*Blackw.* 25–*Fuchs.* 646–*Trag.* 822–*J. B.* ii. 104. 1–*Ger.* 743. 1–*Dod.* 411. 1–*Lob. obs.* 358. 1–*Ger. em.* 891. 1–*Park.* 1460. 1.

*Bloss.* lower segment divided twice as deep as the rest. *Leaves* and stem smooth. LINN. *Bloss.* red on the outside; yellowish within. *Berries* red.

*Common Honeysuckle. Woodbine Honeysuckle.* Hedges. S. May, June.†

Var. 2. *Leaves* indented. [In Sir J. Woodhouse's woods, Norfolk. Mr. WOODWARD.]

* Dr. Smith observes, with Linnæus, that the Water Pimpernell is found, in almost every part of the globe, and under very different latitudes. We have had occasion to remark that this circumstance, however uncommon with plants, as well as animals in general, happens to several aquatics. E. bot.

† The beauty and fragrance of its flowers renders it a pleasing ornament to our gardens, hedges, and arbours. Cows, goats, and sheep eat it, horses refuse it. *Sphinx Ligustri*, and *tipuliformis*; and *Phalæna dydactyla*, and *hexadactyla* feed upon it.

Xylo'steum. L. Fruit-stalks 2-flowered: berries distinct: leaves very entire, pubescent.

*Riv. mon.* 120–*Fl. dan.* 808–*Clus.* 58. 1–*Lob. ic.* 633. 2–*Dod.* 412. 1–*Ger. em.* 1294. 1.

A shrub 6 or 8 feet high. *Leaves* mostly egg-shaped, in opposite pairs, 3 pairs on each branch; rather soft and cloth-like to the touch. *Fruit-stalks* opposite, axillary. *Bloss.* yellow; upper lip 4-cleft, lower lip strap-shaped, entire. *Filaments* woolly.

*Upright Honeysuckle.* S. May.*

JASIO'NE. Common *calyx* 10-leaved: *cup proper* 5-toothed: *bloss.* 5 petals, regular: *anthers* united: *caps.* beneath; 2-celled; many-seeded, opening at the top, crowned by the proper cup.

monta'na. J. Leaves strap-shaped, very entire.

*Kniph.* 12–*Curt.* 245–*Fl. dan.* 319–*Col. ecphr.* 227–*H. ox.* v. 5. 48–*Pet.* 5. 2–*Dod.* 122. 2–*Lob. obs.* 291. 3. *ic.* i. 536. 2–*Ger. em.* 723. 12.

*Stem* a foot high, or more; cloathed with leaves for something more than one third of its height: above naked. *Branches* several, from amongst the upper leaves, alternate, much shorter and slenderer than the stem. *Leaves* strap, or strap-spear-shaped, sitting, waved at the edge, hairy, pointing upwards, sometimes, though rarely, with here and there a small tooth. WOODWARD. *Fruit-stalks* naked. *Blossoms* blue, or white.

*Hairy Sheeps Scabious. Scabious Sheepsbit.* Only in very dry parched situations. LINN. ST.—Sandy and barren fallows and pastures. RAY.—Meadows and heaths. HUDS. A. June, July.

Var. 2. *dwarf.* Whole plant very hairy; when full grown but about an inch high.

Sea coast, Cornwall.

* This species was admitted into the 1st edition of this work, on the authority of Wallis, p. 149, who mentioned it as having been found under the Roman wall on the west side of Shewing Sheels. No further evidence of its being a native appearing, it was omitted in the second edition: but several bushes of it having been found lately in the wood on the S. W. side of the pool in Edgbaston Park, its admission into the flora of this island cannot longer be disputed. In the north of Europe it seems a common plant; Linnæus informs us it makes excellent garden hedges in a dry soil: that the clear parts between the joints of the shoots are used in Sweden as tubes for tobacco pipes, and that the wood being extremely hard, makes teeth for rakes, &c.

VERBA'SCUM. *Bloss.* wheel-shaped, nearly regular: *caps.* 2-celled; 2-valved; many-seeded.

V. Leaves decurrent, cottony on both sides: stem unbranched: summit globular. Thap'sus.

*Fl. dan.* 631–*E. bot.* 549–*Woodv.* 125–*Blackw.* 3–*Kniph.* 9.

From 4 to 6 feet high. Flowers in a long terminating spike. *Bloss.* yellow; rarely white.

*Great White Mullein. High Taper. Cows Lungwort. Ladies Foxglove.* Dry ditch banks, in chalky and gravelly soil. B. July.*

Var. 2. *Thapso-nigrum.* Leaves egg-oblong; lower ones on leaf-stalks, middle ones sitting, upper ones decurrent: stem branched: flowers several together, sitting. Mr. Robson.

I am indebted to Mr. Robson, of Darlington, for this curious hybrid plant, together with the following account of it.

This was the produce of V. Thapsus and nigrum. In the spring of 1789, I planted a root of V. nigrum near a plant of the V. Thapsus. Both species flowered well, and the latter was suffered to stand and shed its seed. In the spring of 1790, several plants appeared, different from either, but partaking of both species.

The specimen sent was taken from a plant which has come up and flowered for 5 years successively, but produces no perfect seed. Whole plant hairy; hairs branched. *Root* branched, perennial. *Stem* 5 or 6 feet high; branched from the bottom. *Branches* undivided, long, angular, lower part leafy. *Leaves* egg-oblong, wrinkled, scolloped: *lower* ones on leaf-stalks; *middle* one sitting; *upper* ones decurrent, more acute than the lower; gradually diminishing to floral-leaves, and at length to flower-scales. *Spikes* terminating the branches, $1\frac{1}{2}$ to 2 feet long, composed of many clusters of sitting flowers, about 6 or 7 in each. *Cal.* segments spear-shaped. *Bloss.* segments inversely heart-shaped, nearly equal, yellow. *Filaments* yellow, hairy, hairs purple, 2 of them hairy only on one side. *Anthers* orange. *Germ.* woolly. It is difficult to say to which of its parents it is most nearly allied. In V. Thapsus the leaves are decurrent, in nigrum on leafstalks; in the hybrid the lower leaves have leaf-stalks, the upper ones being decurrent. V. Thapsus has 3 of its

* Externally used it is emollient. Dr. Home advises a decoction of it, 2 ounces to a quart, in diarrhœas of an old standing; he gave a quart every day. *Clin. Exp.* p. 439. It eases the pains of the intestines; it is used as an injection in tenesmus with advantage; and is often applied externally to the piles. *ib.*—It is said to intoxicate fish so that they may be taken with the hand.—In Norway they give it to cows that are consumptive.—The down serves for tinder.—Neither cows, goats, sheep, horses, or swine will eat it.

stamens hairy, and 2 smooth; nigrum has all its stamens hairy; the hybrid has all its stamens hairy, but two of them so only on one side. Mr. Robson.

Var. 3. Another hybrid variety which Mr. Turner would call *nigro-lychnitis*, he found near Yarmouth, and describes it thus:

"*Leaves* woolly, and excepting those of the root, all sitting. *Stem* about 4 feet high, throwing out numerous flowering branches which are axillary. Flowers in bunches of about a dozen each, resembling entirely those of V. nigrum, and all the stamens purple and woolly. It evidently perfects no seeds."

This variety has since been extirpated, but may probably appear again in the same place, or elsewhere.

Thapsoi'des. V. Leaves decurrent: stem branched.

*Fuchs.* 846–*Dod.* 143. 2–*Ger. em.* 773. 2–*J. B.* iii. 872. 4.

A hybrid plant, produced in the gardens of Upsal, in the year 1761, from the seeds of the V. *Lychnitis*, impregnated by the pollen of the V. *Thaps.* both which grew in the same bed. Seen long ago by Agerius, who sent it to J. Baugh, from whom succeeding authors have copied it. Agrees with V. *Lychn.* in its branching *stem*; its *flowers*, and also though less so in the purple hairs of the *filaments*; and with the V. *Thaps.* in size, in its *leaves*, which run down the stem, though not all the way, and which are not so white; in its *calyx*, which, however, has a longer *fruit-stalk*, though not so long as in the V. *Lychn.* In a word, it is not a distinct species, but rather a variety of V. *Lychnitis.* Linn.

*Bastard Mullein.* Chalky and sandy meadows and pastures, in Kent. Huds. B. July, Aug.

Lychni'tis. V. Leaves wedge-oblong.

Var. 1. *powdery.* Whole plant covered with a meal-like down.

*E. bot.* 487. 1–*Verbascum pulverulentum.*–*J. B.* iii. 873. 1.

*Stem* 4 to 5 feet high. *Leaves*, lower ones somewhat notched; upper ones sometimes embracing the stem, more and more pointed as they ascend. *Bloss.* yellow. Woodward.

About Norwich. Ray. [and Mr. Pitchford.—Very common in Norfolk. Mr. Woodward.]—Bury, and Wollerton, Northamptonshire. Ray. B. July.

Var. 2. *Green.* Lower leaves green above, cottony underneath.

*E. bot.* 58–*Kniph.* 6–*Ger.* 631. 1–*Pet.* 62. 4–*Fuchs.* 847–*J. B.* iii. 873. 2–*Matth.* 1147–*Lob. obs.* 303. 2–*Ger. em.* 775. 3–*Ger.* 632. 3–*Fl. dan.* 586.

*Stem* seldom more than 3 feet high. *Lower leaves* of a pleasant green, their upper surface shining. Mr. WOODWARD. *Flowers* in terminating and lateral spikes; pale yellow, or dirty white.

*Hoary Mullein.* Chalky and sandy meadows and pastures, and road sides, Kent. [Kinver, Staffordshire, near the Rock Houses. Dr. STOKES.] July.

V. Leaves heart-oblong, on leaf-stalks. ni'grum.

*E. bot.* 59–*Fl. dan.* 1088–*Fuchs.* 849–*Dod.* 144. 1–*J. B.* iii. 873. 3–*Trag.* 218–*Ger.* 631. 2–*Ger. em.* 775. 2–*H. ox.* v. 9. *row* 2. 5.

*Leaves* notched, downy underneath. *Stem* angular. *Spike* loose, sometimes branched. LINN. *Leaves* heart-spear-shaped, not doubly scolloped; the lower on short broad leaf-stalks. *Flowers* about 7 in a set. *Spike* long, but not very compact. The beauty of its golden yellow blossoms is much enriched by the tints of purplish brown at the mouth of the tube, and the yellowish scarlet colour of the anthers.

*Black Mullein.* Hedges and road sides. [Road sides, sandy soil, Suffolk. Mr. WOODWARD.—At Hampstead, betwixt Birmingham and Walsall.] P. July—Sept.

V. Root-leaves somewhat lyre-shaped: stem-leaves sitting: stem branching: fruit-stalks several together, sitting. ST. virga'tum.

*E. bot.* 550–*Lob. ic.* 564–*J. B.* iii. 875. 1.

*Root* branched, slanting, biennial, whitish, bitter. *Stem* upright, from 5 to 6 feet high, branching from the bottom, round, marked with superficial angles from the edges of the leaves running down the stem, and of a wood-like hardness below. *Branches* undivided, long, rod-like, alternate, solitary, leafy below, beset with flowers to the length of 2 feet and upwards. *Root-leaves* a good deal resembling those of the *Common Primrose*, spear-shaped-oblong, wing-cleft-scolloped towards the base, unequally and doubly notched, wrinkled; above somewhat glossy, with scattered hairs; *underneath* venous and woolly. *Lower stem-leaves* oblong-spear-shaped, or egg-oblong-spear-shaped, notched, and some of the lowermost scolloped towards the base, narrowing down into very short leaf-stalks. *Upper stem and branch-leaves* egg-shaped, or oblong-egg-shaped, toothed, not serrated as in V. *Boerh.* and *Blatt.* sitting, not embracing the stem as in V. *Blatt.* *Flower-leaves* egg-shaped, gradually diminishing, the uppermost spear-shaped, and at length becoming a kind of flower-scale. *Flowers* nearly sitting, in small clusters from the sides of the stem and branches, at moderate intervals.

*Bloss.* yellow, with a purplish ring round the mouth; 1¼ inch diameter; 2 or 3 in bloom at once. *Fruit-stalks* horizontal, very short, seldom more than half the length of the calyx.

*Blattaria lutea major, sive Hispanica. Park.* 64. *and par.* 383–*Blattaria lutea fol. long. laciniato altera* 4 *cubitorum*, 3, 4, 5, *et plura vascula conjuncta habens. C. B. pin.* 240—*Blattaria magno flore. C. B. pin.* 241. *J. B.* iii. 875. *R. hist.* 1096. *Tourn.* 148.

First found by Mr. Waldron Hill, of Worcester, in a field on the S. side of a lane leading from Gregory's mill to the turnpike-road, near that town. The side of the turnpike road from Worcester to Ombersley, opposite to the lane leading to Beverey, cultivated for 3 years without any perceptible alteration. Dr. Stokes.

Blatta'ria. V. Leaves embracing the stem, oblong, smooth: fruitstalks solitary.

*E. bot.* 393–*Fuchs.* 183–*Trag.* 925–*J. B.* iii. 874. 1–*Ger. em.* 778. 7–*Park.* 64. 3–*Ger.* 633. 1–*Matth.* 1151–*Dod.* 145. 1–*Lob. obs.* 304. 2–*Ger. em.* 776. 1–*Park.* 61. 5–*Pet.* ii. 62. 5–*H. ox.* v. 9. *row* 3. 5.

*Stem* 2 to 3 feet high, slightly angular, smooth. *Leaves* somewhat wrinkled. Pollich. *Leaves* glossy on the upper side; sometimes toothed, and sometimes notched; *lowermost* wing-cleft at the base. *Fruit-stalks* longer than the flower-leaves.

*Yellow Moth Mullein.* Gravelly soil. Lane between Mitcham Common and Casalton. Horn's place, near Rochester, between Deptford and Greenwich. Ray.—About Plymouth and Ashburton, Devon. Huds. A. June, July.

DATU'RA. *Bloss.* funnel-shaped, plaited: *cal.* tubular, angular, falling off with the blossom: *caps.* 4-valved.

Stramo'nium. D. Seed-vessel thorny, upright, egg-shaped: leaves egg-shaped, smooth.

*Stoerck.–Fl. dan.* 436–*Woodv.* 124–*Kniph.* 10–*Cius. exot.* 289–*Ger. em.* 348. 2–*Blackw.* 313–*Col. phytob.* 12.

A large wide spreading plant, about 2 feet high. *Leaves* deeply indented. *Bloss.* white, sometimes with a tinge of purple.

*Common Thorn-apple.* Amongst rubbish, and on dunghills. [Tritton Heath, Suffolk, Mr. Woodward.]—A native of America, but now naturalized in Europe. Linn. A. July.*

* At night the *leaves*, particularly the upper ones, rise up and inclose the flowers. An ointment prepared from the leaves gives ease in external inflammations

## HYOSCY'AMUS. *Bloss.* funnel-shaped, blunt, irregular: *stam.* leaning: *caps.* with a lid, 2-celled: *seeds* many, kidney-shaped.

H. Leaves embracing the stem, indented: flowers sitting. ni'ger.

*E. bot.* 591–*Kniph.* 1–*Ludw.* 85–*Clus.* ii. 83–*Dod.* 450. 1–*Lob. obs.* 139. 1–*Ger.* 283. 1–*Ger. em.* 353. 1–*Woodv.* 52–*Park.* 362. 1–*Blackw.* 550–*Riv. mon.* 102–*Stoerck.* –*H. ox.* v. 11. *row* 2. 1–*Matth.* 1064–*Fuchs.* 833–*J. B.* iii. 627. 1–*Trag.* 133.

Whole *plant* with a strong and peculiar odour; woolly and clammy. *Calyx* woolly at the base, a little distended on the under side. *Bloss. tube* white, with the middle deep purple; *border* pale yellowish brown, beautifully veined with purple. *Anthers* and style of a fine deep purple.

*Common Henbane.* Villages, road sides, and amongst rubbish, not uncommon. B. LINN. A. HUDS. June.*

H. Leaves on leaf-stalks, bluntly indented: flowers sitting. al'bus.

This plant, new to the English Botanist, has been found at different times by Mr. ROBSON of Darlington, on Ballast Hills and other places near Sunderland.

## ATROPA. *Bloss.* bell-shaped: *stam.* distant: *berry* globular, 2-celled.

inflammations and Hæmorrhoides. The Ediburgh College directs an extract to be prepared by evaporating the expressed juice of the leaves. This has been given with great advantage in convulsive affections and epilepsies.—Out of 14 epileptic patients, 8 were entirely cured by it, at Stockholm.—The dose from 2 to 16 grains a day. *Med. Comm.* i. 368. iii. 22. See also *Lond. Med. Jour.* ii. 295. The seeds or leaves given internally bring on delirium, tremors, swelling, itching, eruption, and inflammation on the skin: these effects were produced by a dose of a dram and a half, in a girl of 9 years old. See Dr. Fowler's account, *Med. Comm. vol.* 5. *p.* 164. Cows, goats, sheep, and horses refuse it.

* The seeds, the leaves, and the roots, taken internally, are reputed poisonous; and well attested instances of their bad effects are recorded. Madness, convulsions, and death, are the general consequence. But Dr. Smith says he has often eaten the seeds with impunity. It is said that the leaves scattered about a house will drive away mice. The Edinburgh College order the expressed juice of the plant to be evaporated to an extract; and perhaps in this state it may be advantageously joined with opium, where the effects of that medicine are desirable, and costiveness is to be avoided.—There is no doubt of its being an useful medicine under proper management. The dose is from half a scruple to half a dram. Goats are not fond of it. Horses, cows, sheep, and swine refuse it. LINN. —Sheep sometimes eat it when young. Mr. BALLARD.—*Chrysomela Hyoscyami*, and the *Cimex Hyoscyami*, are found upon it.

Belladon'na. A. Stem herbaceous: leaves egg-shaped; entire.

*E. bot.* 592–*Curt.* 347–*Ludw.* 128–*Jacq. austr.* 309–*Fl. dan.* 758–*Kniph.* 9–*Sheldr.* 101–*Mill.* 62–*Woodv.* 1–*Clus.* ii. 86. 1–*Dod.* 456. 1–*Lob. obs.* 134. 2–*Ger. em.* 340–*Park.* 346. 6–*Ger.* 269–*H. ox.* xiii. 3. 4–*Blackw.* 564–*Matth.* 1073–*J. B.* iii. 611. 1–*Fuchs.* 689–*J. B. ib.* 2–*ib.* 3–*Trag.* 301.

Two or 3 feet high. *Stem.* zigzag. *Bloss.* dark purple. *Berry* green, changing to red, and when ripe, black.

*Deadly, or sleepy Nightshade. Dwayberries: Deadly Dwale.* Hedges, amongst limestone and rubbish. [In St. Faith's, Newton, near Norwich, and in Herts, frequent. Mr. Woodw.—Very luxuriant amongst the mines of Furness Abbey, whence the valley is called the vale of nightshade. See West's Antiquities of Furness. Mr. Atkinson —Yard of Lantony Abbey, near Gloucester. Mr. Ballard. — Hardwick Park, Derbyshire. Dr. Stokes.—Banks of Dudley Castle.] P. June. Aug.*

SOLA'NUM. *Bloss.* wheel-shaped: *anthers* a little united, 2 holes at the top of each: *berry* 2-celled.

Dulcama'ra. S. Stem without prickles, rather shrub-like, zigzag: upper leaves halberd-shaped: flowers in tuft-like bunches.

*E. bot.* 565–*Ludw.* 58–*Curt.* i. 1–*Fl. dan.* 607–*Blackw.* 34–*Kniph.* 1–*Woodv.* 30–*Dod.* 402. 2–*Lob. obs.* 136. 4–*Ger. em.* 350–*Park.* 350–*Ger.* 279. 1–*Trag.* 816–*Matth.* 1281. *J. B.* ii. 109. 2.

* The whole plant is poisonous; and children, allured by the beautiful appearance of the berries, have too often experienced their fatal effects. Tumours of the breasts, even of the cancerous kind, are said to have been resolved by a topical application of the fresh leaves. Dr. Graham in the *Med. Communicat. vol.* i. *p.* 419, says, he found great benefit from a poultice made of the roots, boiled in milk, and applied to hard ill-conditioned tumours and ulcers; and relates a deplorable case, in which this poultice effected a perfect cure. There is no doubt but their external application may be productive of good effects in several cases, but the following instance shews us that their application is dangerous when the skin is broken: A lady, who had a small ulcer a little below one of her eyes, which was supposed to be of a cancerous nature, put a small bit of the green leaf upon it. In the morning the uvea of that eye was so affected that the pupil would not contract, even in the brightest light; whilst the other eye retained its usual powers. The leaf being removed, the eye was gradually restored to its former state. This could not be an accidental effect, for it was repeated three separate times, and the same circumstances attended each application. *Ray Hist.* 680. The juice of the ripe berries stains paper of a beautiful and durable purple.

*Stems* twining. *Leaves* egg-spear-shaped; the upper sometimes, but not always halberd-shaped. *Bloss.* purple, with 2 green spots at the base of each segment. *Anthers* on the 1st opening of the blossom readily separable, but afterwards growing dryer, they sooner tear than be disjoined. *Berries* scarlet. *Bloss.* sometimes flesh coloured; rarely white

*Bitter-sweet. Woody Nightshade.* Moist brakes, hedges, and sides of ditches. P. June, July.*

Var. 2. Leaves hairy. HUDS.—Sea coast. RAY and HUDS.

S. nigrum. Stem without prickles, herbaceous: leaves egg-shaped, toothed, angular: bunches nodding, pointing 2 ways.

*E. bot.* 566–*Ludw.* 172–*Curt.*–*Fl. dan.* 460–*Woodv.* 226–*Sheldr.* 106–*Blackw.* 107–*Dod.* 454. 1–*Lob. obs.* 133. 2–*Ger. em.* 339. 1–*Park.* 346. 1–*H. ox.* α xiii. 1. *row* 1. 1–*Matth.* 1069–*Ger.* 268. 1–*Fuchs.* 686–*J. B.* iii. 6. 608–*Trag.* 303.

*Stem* branched, angular. *Fruit-stalk* lateral, midway between the leaves. *Bloss.* white. *Berries* black when ripe. This plant is subject to such varieties that I once suspected Linnæus had confounded different species under the name of S. nigrum; but the judicious remarks of my truly estimable friend Dr. Corrêa de Serra, at length convinced me to the contrary. With us it is truly an herbaceous annual, but in Portugal I have seen the stem from ½ to 1 inch diameter, cutting like hard wood, and its duration certainly biennial, probably perennial, the stem and branches becoming quite black with age. The fig. of Mr Curtis seems to have been taken from a plant in an intermediate state, between the strictly herbaceous northern and the woody southern varieties.

*Common Nightshade. Garden Nightshade.* Amongst rubbish, and on dunghills, and in Kitchen Gardens. A. June—Oct.†

* Boerhaave says it is a medicine far superior to China and Sarsaparilla as a sweetner and restorative. Linnæus says an infusion of the young twigs is an admirable medicine in acute rheumatisms, inflammations, fevers, and suppression of the lochia. Dr. Hill says he has found it very efficacious in the asthma. Doctor Hallenberg advises it in ischiatic and rheumatic pains, jaundice, scurvy, and lues venerea. He directs a pint of boiling water to be poured upon 2 drams of the stalks sliced and dried, after standing half an hour, it must be boiled 15 minutes. The dose is 2 tea cups full or more, morning and evening. The stalks may be gathered early in the spring, or at the end of autumn. *Med. Comm. vol.* 3 *p.* 15.—The root has the smell of the potatoe. Dr. BEDDOES.—Sheep and goats eat it. Horses, cows, and swine refuse it.

† From 1 to 3 grains of the leaves infused in boiling water, and taken at bed-time, occasions a copious perspiration; increases the secretion by the kidneys, and generally purges more or less the following day. These properties,

CHIRO'NIA. *Bloss.* funnel-shaped: *pistil* leaning: *stam.* fixed to the top of the tube of the blossom: *anthers* becoming spiral: *seed-vess.* 2-celled.

Centau'rium. C. Herbaceous: leaves spear-shaped: calyx shorter than the tube of the blossom.

*Dicks. h. s.–Curt.* 247–*E. bot.* 417–*Woodv.* 157–*Fl. dan.* 617–*Kniph.* 8–*Walc.–Sheldr.* 82–*Fuchs.* 387–*J. B.* iii. 353. 2–*Matth.* 655–*Dod.* 336–*Lob. obs.* 218–*Ger. em.* 547. 1–*Park.* 272. 1–*Blackw.* 452–*Trag.* 140–*Ger.* 437–*H. ox.* v. 26. *row* 1. 5.

*Bloss.* sometimes only 4-cleft. Huds. and sometimes white. Ray. Plant 10 or 12 inches high; upright, dividing at the top into 3 flowering branches; and sometimes one or two flowering branches spring from the bosom of the leaves on the side of the stem. *Flowers* forming a Corymbus. *Calyx* adhering to the tube of the blossom, and that again to the germen. *Bloss.* funnel-shaped, tube long, yellowish: border pinky red, segments lapping over each other. *Anthers* twisted in a spiral after discharging the pollen. *Style* cylindrical, cloven at the top, and divisible without much force all the way down. *Summits* 2, shaped like a horse-shoe, yellowish green.

*Lesser Centory. Gentiana Centaurium.* Linn. Barren pastures. A. June—Aug.*

Var. 2. Much branched.

*Vaill.* 6. 1.

Var. 3. *Dwarf*; hardly 1 inch high. This grows on barren limestone rocks, and has much the appearance of the Ch. pulchella, but, however small, it still preserves its dichotomous habit, and its leaves have not the woody ribs or nerves so evident in the Ch. pulchella. The calyx best distinguishes the Ch. pulchella from the starved specimens of Ch. Centaurium.

properties, judiciously applied, render it capable of doing essential service in several diseases, as may be seen in Mr. Gattaker's Treatise on the Solanum. But its effects on the nervous system are so uncertain, and sometimes so considerable, that it must ever be administered with the greatest caution. The leaves externally applied abate inflammation, and assuage pain. The flowers smell like musk. Horses, cows, goats, sheep, and swine refuse it.

* Extremely bitter. It is the basis of the famous Portland Powder, which prevents fits of the gout, when taken in a large quantity, and a long time together; but brings on hardness of the liver, palsy, and apoplexy. A tincture of the leaves, and the upper part of the root, is a good medicine in weak stomachs and cachectic habits. A decoction of the whole plant destroys lice, and cures the itch.—Cows are not fond of it. Linn. and in sheep pastures it is frequently left untouched. Dr. Stokes.

C. pulchel'la. From 1 to 4 inches high; stem with 3 or 4 pairs of leaves, not branched. Flowers 1, sometimes 2, terminating. Leaves egg-spear-shaped, 3 or 5 fibred. *Floral*-leaves strap-shaped.

*E. bot.* 458–*Swartz. nov. act. Stockh.* 1783. *p.* 83. *t.* 3. *f.* 8. 9.

The latter figure is cited from Gmelin in his edit. of the Syst, Naturæ, and on the authority of Mr. Afzelius.

Specimens sent by Mr. GIDDY in 1796. The dwarf plants first found by Mr. WATT having no stem, and several flowers at the crown of the root are exactly the same with the fig. in E. bot. 458.—Dr. Smith cites Vaill. par. vi. 1. but that fig. is much larger than either the Cornish or the Gorlestone plants.

Sir Tho. Frankland observes the habit of the Ch. *pulchella* to be very different from that of the Ch. *Centaurium*: the leaves also seem different at their insertion, those of Ch. centaurium uniting; in Ch. pulchella they appear distinct.

CALYX segments nearly as long as the tube of the blossom, but not adhering to it, as in the preceding species.

BLOSS. funnel-shaped: border 5-cleft, segments spear-shaped; tube not adhering to the germen.

STAM. fixed near the top of the tube. *Anthers* twisted spirally when dry, but when damped resuming their original shape.

PIST. *Germen* oblong, nearly filling the tube of the blossom. *Style* half the length of the filaments. *Summits* 2, horse-shoe-shaped, velvety.

CAPS. partitioned into 2 cells.

SEEDS numerous.

Gentiana *pulchella*. Gmel. Syst. Nat. *G. Centaurium.* β LINN. Aug. Sept.

[Downs at Port Owen, near the sea, Cornwall. Mr. WATT. Gorlestone, Norfolk, near the sea. Mr. TURNER.] E. bot. Sept.

## RHA'MNUS. *Calyx* tubular; scales protecting the stamens: *bloss.* none: fruit a *drupa*.

R. catharticus. Thorns terminating: flowers 4-cleft, male and female on different plants: leaves egg-shaped: stem upright.

*Fl. Ross.* i. 61–*Fl. dan.* 850–*Blackw.* 135–*Matth.* 158–*Woodv.* 114–*Dod.* 756–*Ger. em.* 1337. 2–*Park.* 243. 1 *at the bottom.*–*Clus.* i. 111–*Lob. obs.* 599. 1–*Ger. em.* 1337. 1–*Park.* 243. 1.

*Summit* cloven into 4. *Berry* 4-seeded. LINN. *Stamens* 4. *Blossoms* pale green. *Berries* black.

*Purging Buckthorn.* [Woods and hedges near Norwich. Mr. CROWE Side of a brook near Hanley-Castle, Worcestershire. Mr. BALLARD. In Shropshire, common.] S. April, May.*

Fran'gula. R. Without thorns: flowers hermaphrodite, with 1 pistil: leaves very entire.

*Kniph.* 5–*E. bot.* 250–*Ludw.* 82–*Blackw.* 152–*Fl. dan.* 278–*Matth.* 1271–*Ger.* 1285–*Lob. obs.* 594. 2–*Park.* 240–*Dod.* 784. 1–*Ger. em.* 1470–*J. B.* i. 560. 2–*Trag.* 981–*Lob. obs.* 594. 1.

*Bloss.* with 5 clefts. *Summit* notched. *Berry* with 4 seeds. The inner bark is yellow; the outer sea-green, and the middle bark red as blood. LINN. *Berry* with 3 cells. SCOP. With 2 seeds E. bot.

*Black-berry-bearing Alder. Alder Buckthorn.* Woods and wet hedges. [Woods, Suffolk. Mr. WOODWARD. Wood at Smethwick, near Birmingham. ST. Hedges at Pendeford, near Wolverhampton. Mr. PITT. Landsmouth Wood, 4 miles N. of Knayton, Yorkshire. Mr. FLINTOFF. Cotcliffe Wood, near Burrowby. Mr. ROBSON.] S. April, May.†

EUO'NYMUS. *Bloss.* 5 petals: *caps.* coloured; 5-sided, 5-celled, 5-valved: seed-coat hollow: *seed* veiled.

europæ'us. E. Flowers mostly 4-cleft: leaves sitting.

*E. bot.* 362–*Fl. dan.* 1089–*Kniph.* 5–*Trag.* 983–*Ger.* 1284. 1–*Dod.* 783–*Lob. obs.* 591. 2–*Ger. em.* 1468. 1–*Park.* 241. 1–*J. B.* 1. 6. 201.

* A purgative syrup prepared from the berries is kept in the shops. About an ounce of it is a moderate dose; but it generally occasions so much sickness and griping that it is falling into disuse. The flesh of birds that feed upon the berries is said to be purgative.—The juice of the unripe berries is of the colour of saffron, and is used for staining maps or paper. These are sold under the name of French Berries. The juice of the ripe berries mixed with alum, is the sap green of the painters; but if they are gathered late in the autumn the juice is purple. The bark affords a beautiful yellow dye. Goats, sheep, and horses eat it. Cows refuse it.

† From a quarter to half an ounce of the inner bark, boiled in small beer, is a sharp purge. In dropsies, or constipations of the bowels of cattle, it is a very certain purgative.—The berries gathered before they are ripe, dye wool green. The bark dyes yellow, and with preparations of iron black. Charcoal prepared from the wood is preferred by the makers of gunpowder.—The flowers are particularly grateful to bees. Goats devour the leaves voraciously, and sheep will eat them.—The *Papilio Rhamni*, and *Argus*, live upon both the species.

In Cornwall it has 4 stamens. Mr. STACKHOUSE. Leaves egg-spear-shaped, opposite, on leaf-stalks. *Fruit-stalks* from the bosom of the leaves, and supporting 1 or 2 pair of flowers. *Petals* greenish white. *Filaments* fixed in holes in the receptacle. *Fruit* angular, purplish; sometimes white.

*Common Spindle Tree. Prick Wood. Prick Timber Tree. Gatteridge Tree. Louse Berry.* Woods and hedges. [This singular and beautiful shrub is very common in Devonshire.]

S. May, June.*

VI'OLA. *Calyx* 5-leaved, adhering to the blossom above the base: *bloss.* 5 petals, irregular with a spur behind: *anthers* cohering; *caps.* 1-celled, 3-valved.

(1) *Stemless.*

V. hir'ta. Leaves heart-shaped, rough with strong hair. LINN. Leaf-stalks rough with hair: floral-leaves below the middle of the fruit-stalk. CURT.

*Walc.–Curt.–Fl. dan.* 618–*H. ox.* v. 35. *row* 1. *f.* 4–*Pet.* 37. 7–*Brunsf.* 137. 3–*Trag.* 558.

*Root* throwing out young shoots, but which do not creep and strike root as in the *V. odorata.* After the first flowers are withered, the plant continues, for a month or more, to throw out others entirely destitute of petals, or with only the rudiments of them, which never appear beyond the calyx, but with all the other parts of fructification perfect, and producing as the first crop perfect seed. CURT. *Bloss.* pale blue; scentless.

*Hairy Violet.* Shady places and hedges in a calcareous soil.

P. March, April.

V. odora'ta. Leaves heart-shaped: suckers creeping. LINN. Floral-leaves above the middle of the fruit-stalk. CURT.†

*E. bot.* 619–*Curt.–Ludw.* 175–*Walc.–Woodv.* 81–*Kniph.* 3–*Fl. dan.* 309–*Renealm,* 141. 1–*Blackw.* 55–*Sheldr.* 17–

* The berries vomit and purge violently. They are fatal to sheep. Powdered, and sprinkled upon the hair, they destroy lice. If the wood is cut when the plant is in blossom, it is tough, and not easily broken; and in that state is used by watch-makers for cleaning watches, and to make skewers and tooth-picks. Goats and sheep eat it. Horses refuse it. Cows are so fond of the shoots in the spring as constantly to break down the banks of the fields wherever a plant of it stands. Mr. WOODWARD.

† This observation to be made when the flowers are fully expanded, as the part of the fruit-stalk above the floral-leaves grows considerably longer before the blossoms are faded; CURT. for which reason, depending upon it as a mark of specific distinction, may mislead. Mr. WOODWARD.

*Dod.* 156. 1–*Ger. em.* 850. 2–*Pet.* 37. 3–*Ger.* 699. 1 *and* 2–*Lob. ic.* i. 608. 2–*Ger. em.* 850. 1–*Pet.* 37. 1–*Matth.* 1180–*Lonic.* i. 180. 1–*Trag.* 558. 1 *and* 2–*Fuchs.* 311–*J. B.* iii. 542.

*Leaf-stalks* nearly smooth. *Fruit-stalks* channelled on the upper side above the floral-leaves. *Flowers* both with and without petals, all producing perfect seed. CURT. *Blossom* rich blue-purple, smelling very sweet. WOODWARD.

*Sweet Violet.* It is liable to a change in the colour of the blossom, from the blue purple to red purple, pale flesh colour, and even white. In the white ones the lateral petals are sometimes without the hairs which grow on the inside the claws in the purple kind, but the fragrance is the same. Warm hedges and ditch banks, and in moist warm lanes; particularly in clay or marle. P. March, April.*

palus'tris. V. Leaves kidney-shaped.

*E. bot.* 444–*Curt.* 217–*Abbot. Fl. Bed. p.* 190–*Fl. dan.* 73–*H. ox.* v. 35–*row* 2. *f.* 1–*Pet.* 37. 5–*Allion.* 2. 2.

*Calyx* skinny, and white at the edge. *Petals*, the *lower* of a uniform pale purple colour; the *lateral* ones with 1 strong, and 1 faint purple line, and a cluster of short stiff bristles near the base; the *upper* with about 11 purple branched streaks.

*Marsh Violet.* Moist meadows, peaty and mossy bogs. In the North, frequent. [Near Wittonle-Wear. Mr. BAILEY. Almond Park, Salop. Mr. AIKIN. Needwood Forest, Staffordsh. Bogs on Birmingham Heath.] P. April, May.

(2) *With a stem. Stipulæ entire.*

cani'na. V. Stem ascending as it attains its full growth: leaves oblong-heart-shaped.

*E. bot.* 610–*Curt.* 108–*Walc.*–*Barr.* 695–*Lob. ic.* i. 609. 1–*Pet.* 37. 6–*Trag.* 558. 3–*Dod.* 156. 3–*Lob. ic.* i. 609. 2–*Ger. em.* 851. 6–*H. ox.* v. 7. 2–*Pet.* 37. 4–*Gars.* 622–*Park. par.* 285. 1–*J. B.* iii. 544. 1.

*Calyx* segments pointed. CURT. At the first opening of the flower it has no stem, but one afterwards grows up, and fruit-

* The flowers and seeds are said to be mild laxatives. The powdered root, in doses from 40 to 80 grains, vomits and purges. The petals give the colour to the syrup of Violets, for which purpose they are cultivated in large quantity at Stratford-upon-Avon. This syrup is very useful in many chemical enquiries, to detect an acid or an alkali, the former changing the blue colour to a red, and the latter to a green. Slips of white paper, stained with the juice of the petals, and kept from the air and light, answer the same purpose.

stalks proceed from it. *Leaves* sometimes rather hairy. *Stipulæ* fringed with hairs. *Bloss.* pale blue, streaked, scentless, sometimes all white, sometimes the spur only white.

*Dogs Violet.* Shady places, heaths, hedge banks.

P. April—June.

Var. 2. *Dwarf.* Smaller in all respects. Spur of the blossom yellowish. DILL. in *R. Syn.*

*Ray* 24. 1, *at p.* 478.

*Stem* very short. *Leaves* rougher and much smaller than the common kind, the largest not exceeding half an inch long, and one-third broad. *Leaf-scales* not so much fringed. *Flower* seldom more than 1. I have carefully traced it through all its stages, up to the largest plants of *V. canina.* WOODWARD.

Pastures about Mitcham. *R. Syn.* [Heaths frequent, Mr. WOODWARD.] May.

Var. 3. Leaves spear-shaped. Flowers pale.

*E. bot.* 445.

[Found by Mr. Stackhouse at Pendarvis in Cornwall.]

(3) *With a stem. Stipulæ wing-cleft. Summit urn-shaped.*

V. Stem branched: leaves egg-shaped, toothed: calyx tri' smooth, but half the size of the blossom.

This plant is liable to almost endless varieties, of which the following are the most remarkable.

Var. 1. Blossoms white, or yellow white; small, with a few purple streaks.

*Matth.* 1183–*Ger.* 704. 4, *and* 703. 1–*Fuchs*, 803–*J. B.* iii. 546. 2–*Trag.* 564–*Lob. ic.* i. 611. 2–*Ger. em.* 854. 4–*H. ox.* v. 7. 10.–*Pet.* 37. 9.

Corn fields. [Gravel-pits, sides of paths, gardens and cultivated ground. Dr. STOKES.] A. May—Sept.

Var. 2. Blossoms blue, or purplish, with or without yellow or white.

*Kniph.* 7–*Riv. pent.* 122. *V. bicolor*–*Pet.* 37. 8–*Barr.* 757. 1 *and* 3.

Road sides, in poor sandy and gravelly soil, common.

Var. 3. Blossoms of more than 2 colours. Dr. STOKES.

*Curt.*–*Woodv.* 252–*Fl. dan.* 623–*Pet.* 37. 8, *the* 2 *separate flowers.*

*Stem* weak. *Stipulæ* terminating at the end in a leaf-stalk. *Fruit-stalks* compressed. *Floral-leaves* 2 on each fruit-stalk, halberd-shaped, each of the lobes with 2 teeth. *Summit* globular,

hollow and open. In no plant may the process of impregnation be so distinctly seen. LINN. *Summit* fringed on the lower part, and the hairs of the fringe nearly in contact with the anthers.

These varieties are improved and enlarged by garden culture, and then obtain the names of *Pansies. Heart's-ease. Three faces under a hood. Love in idleness.* Corn fields and ditch banks. [Very fine in the lanes about Bishton, Staffordsh.]

A. May—Sept.*

lu'tea. V. Stem unbranched, upright, 3-cornered: leaves fringed with hairs, lower ones heart-shaped, upper ones spear-shaped.

*E. bot.* 721–*Pet.* 37. 10–*H. ox.* v. 7. 11.

From 2 to 8 inches high. Root creeping. Lower leaves heart-shaped, upper leaves spear-shaped; stipulæ strap-shaped, entire, or rather divided down to the base, but in the V. tricolor they are hand-shaped. *Fruit-stalks* very long, axillary, upright, 1-flowered. *Bloss.* pale but bright yellow. In the V. tricolor the leaves are hairy at the edges as well as elsewhere, but not fringed with strong hairs standing out like an eye-lash, as in the V. lutea. The stem of the former is almost always branched, but I have never seen the latter branched, not even in the strongest and most luxuriant specimens.

Var. 2. Two lower petals tipped with purple. Mr. GOUGH.

Var. 3. Upper petals blue.

*Yellow Violet* or *Pansies.* Mountainous pastures, in the North, and in Wales in a rotten peaty soil. RAY. About Attamine Cliffs near Settle, Yorkshire. CURT. [Hills above Dovedale, Derbyshire, and in the North. Mr. WOODW. Chatsworth Park, Derbyshire. Mr. WHATELEY. Pastures about Longdale near Oxton plentiful. Mr. GOUGH.—In the road between Settle and Malham Tarn, Yorksh. Mr. CALEY.—On Ben Lawers and Craig Calleach. Mr. BROWN.] P. May—Sept.†

## IMPATIENS. *Calyx* 2-leaved: *bloss.* 5-petals, irregular: *nectary* hood-like: *stam.* cohering: *caps.* superior, 1-celled, opening with a jerk into 5 spiral valves.

* Dr. STRACK says that it infallibly cures the scabby complaints in young children, called *Crusta lactea.* He boils a handful of the fresh, or half a dram of the dried leaves, in half a pint of milk, and gives this milk morning and evening, for some weeks. *Med. Journ.* ii. p. 188.

† This plant has been usually considered as the Viola grandiflora of Linn. but Dr. Stokes in the 2d edition of the Bott. Arr. shewed with how little propriety; and Mr. Afzelius has since informed me that our plant was entirely unknown to Linnæus, whose V. grandiflora bears a much larger flower, and differs both in the spur and in the stipulæ.

I. Fruit-stalks many-flowered, solitary: leaves egg-shaped: stem swoln at the joints. Noli-tangere.

*Fl. dan.* 582–*Riv. tetr.* 244. *Impatiens.*–*Dod.* 659. 2–*Ger. em.* 446. *(erroneously printed* 450.*)* 4–*Park.* 296. 5–*Trag.* 295–*Lonic.* i. 99. 4–*Col. ecphr.* i. 150. 1–*Barr.* 1197–*Gars.* 414–*Ger.* 361. 3–*Lob. adv.* 135, *ic.* i. 318. 1–*J. B.* ii. 908.

When the *seeds* are ripe, upon touching the *capsule*, they are thrown out with considerable force. In the day time the *leaves* are expanded; but at night they hang pendant. LINN. *Blossoms* yellow; the lateral petals spotted with red; by cultivation they are changed to pale yellow or purplish.

*Quick-in-hand. Impatient. Touch-me-not.* Moist shady places and banks of rivulets. Banks of Winandermere near Ambleside, near Rydall Hall and other places in Westmoreland. [Between Ambleside and Rydall Hall, Westmoreland, plentifully. Dr. J. E. SMITH.—By the side of Coniston Lake, Lancashire, and near Ambleside. Mr. WOODWARD. Near the foot-path going from the Inn at Ambleside up the brook, towards the cascade. Mrs. WATT.] A. July, Aug.*

RI'BES. *Petals* 5, they and the stamens fixed to the calyx: *style* cloven: *berry* beneath, 1-celled, many-seeded.

(1) *Without prickles:* CURRANTS.

R. Bunches smooth, pendant: flowers flattish. rubrum.

*Woodv.* 74–*Fl. dan.* 967–*Ludw.* 92–*Sheldr.* 91. 1, 2, 3, *and* 5–*Walc.*–*Blackw.* 285. 1. 24–*Kniph.* 2–*Trag.* 995–*Matth.* 168–*Clus.* i. 120. 1–*Dod.* 749. 2–*Lob. obs.* 615. 2 *Ger. em.* 1593. 1–*J. B.* ii. 97.

*Leaves* segments rounded. *Calyx* spreading. Floral-leaves shorter than the flower. *Bloss.* greenish white. *Berries* red.

*Red Currants.* Woods in the northern counties. [Both this and the R. nigrum are found undoubtedly wild upon the banks of rivers; the former by the Tees, and the latter by the Skern, in many places. Mr. ROBSON.] S. May.†

* The whole plant is considerably acrid. Goats eat it. Horses, cows, and sheep refuse it. The *Sphinx Elpenor* lives upon it.

† The fruit is universally acceptable, either as nature presents it, or made into jelly. The juice is a most agreeable acid in punch. If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly. Cows, goats, and sheep eat the leaves. Horses are not fond of them. LINN. This plant is very apt to be infested by the *Aphis Ribes*, and then the green leaves become red, pitted, and puckered.

Var. 2. *Sweet Currants. Ribes vulgaris fructu dulci.* RAY *Syn.* 456.
Woods in Yorkshire and Leicestershire.

Var. 3. *Small Currants. Ribes fructu parvo.* RAY *Syn.* 456.
Wimbleton Park, Surry; and many places in Lancashire.

alpi'num. R. Bunches upright: floral-leaves longer than the flowers.

*E. bot.* 704–*Fl. dan.* 968–*Kniph.* 3–*Gunn.* ii. 2. 1 *and* 2–*Jacq. austr.* 47–*J. B.* ii. 98.

*Leaves* segments spear-shaped, pointed. *Calyx* tubular, bluntly 5-sided. *Stam.* shorter than the petals. *Pistil* as tall as the cup.

*Sweet Mountain Currants.* Woods and hedges in Yorkshire. [About Bradford: Mr. WOODWARD. In the wood on the S. W. side of the pool at Edgbaston, plentifully.] S. May.*

Var. 2. Male and female flowers on different plants.

*Jacq. austr.* 37. left hand fig. the male plant, and the single floret at the bottom. This, hitherto unnoticed as an English plant, was communicated to me by JOHN SNEYD, Esq. who found it in a hedge not far from Ilam in the North of Staffordshire, on lime-stone land. The female flowers produced 5 imperfect stamens, and form a shorter and more thinly set bunch than the male flowers, which have 5 perfect stamens, and 2 summits, but no germen. These dioicous plants have been observed in Germany by JACQUIN and LEERS, but the female plant much more scarce than the male. Mr. ROBSON informs me that it is pretty frequent about Darlington, and that the plants are often male and female.

spica'tum. R. Spikes upright: petals oblong: floral-leaves shorter than the flowers. (Linn. Tr.)

*Linn. Trans.*

This is not a hybrid plant, for its seeds produced perfect plants. It is near to the R. petræum of Jacquin in some respects, but the fruit of that species is pendant, which is not the case with this. The upright *spikes* are sufficient to distinguish it from all its brethren. Mr. ROBSON. This new species of Ribes was first disco-

* The fruit has a flat sweetish taste, and is only agreeable to children. The wood being hard and tough makes good teeth for rakes. Cows, goats, sheep, and horses eat the leaves.—"It is well worth observing how truly the insertion of the stamina into the calyx, as in the class *Icosandria*, indicates a wholesome fruit. The fruits of the *Pentandria Monogynia* are generally dangerous, many of them peculiarly fatal. *Ribes* is an exception, indicated by the insertion of its stamina, in which, though not in their number, it accords with the Icosandria. With this simple guide a traveller in the most unknown wilderness might eat in safety, and thus the natural tree of knowledge leads to life." E. bot.

vered and described by Mr. Robson. He had the first tree from the neighbourhood of Richmond, Yorkshire, and afterwards found it by the Tees, between Piersbridge and Gainford, in the county of Durham. S. April, May.

Obs. Its floral-leaves being shorter than the flowers, will prevent its being taken for the R. alpinum.

R. Bunches hairy: flowers oblong. ni'grum.

*Ludw.* 91–*Kniph.* 2–*Fl. dan.* 556–*Walc.*–*Sheldr.* 91. 7, *fruit*–*Woodv.* 75–*Blackw.* 285. 6–*Dod.* 749–*Ger. em.* 1593 –*J. B.* ii. 99. 1–*Park.* 1562. 2–*Park. ib.* 3.

*Buds* glandular. *Floral-leaves* woolly, and as long as the little fruit-stalks. *Flowers* woolly. *Leaf-stalks* a little woolly, and beset with glands. Linn. *Flowers* turban-shaped. *Calyx* segments often of a rich brown red colour. *Stamens* sometimes more than 5, and then there are fewer petals; so that when there are 10 stamens there are no petals. This change of the petals into stamens, is just the reverse of the process by which single flowers are known to become double, but it is the only fact of the kind that has occurred to my observation.

*Squinancy Berries. Black Currants.* Wet hedges and banks of rivers. [Alder swamps, Norfolk. Mr. Woodward.] S. May.*

(2) *With prickles.* Gooseberries.

R. Branches prickly: fringe of the leaf-stalks hairy: ber- Grossula'ria.
ries hairy.

*Walc.*–*Kniph.* 1.

*Flower-scales* 2, sometimes 3, opposite, embracing the fruit-stalk. Stokes. If the flower-scales will not distinguish this species from the R. Uva-crispa, the roughness or smoothness of the berries will hardly do it, for Mr. Robson assures me that seeds from the same plant will produce both rough and smooth gooseberries.

*Rough Gooseberry. Feaberry* in Cheshire, Lancashire, and Yorkshire. Hedges. Walc.—[And on old buildings and church towers. St.—Woods and hedges about Darlington, common. Mr. Robson.] S. Apr.

* The berries have a very peculiar flavour which many people dislike; but their juice is frequently boiled down into an extract, with the addition of a small proportion of sugar; in this state it is called rob; and is much used in sore throats, but chiefly in those of the inflammatory kind. Some people put them into brandy, for the same purpose that other people use black cherries. The tender leaves tinge common spirits so as to resemble brandy. An infusion of the young roots is useful in fevers of the eruptive kind; and in the dysenteric fevers of cattle. Goats and horses eat the leaves. Linn.—A horse refused it. St.—All the species are eaten by the *Phalæna grossularia.*

Uva-cris'pa. R. Branches prickly: berries smooth: fruit-stalks with a flower-scale of 1 leaf.

*Schmied.* 1–*Blackw.* 277–*Fuchs.* 187–*Trag.* 977–*Matth.* 167–*J. B.* i. 6. 47–*Lonic.* i. 43. 1–*Dod.* 748–*Lob. ic.* ii. 206. 1, *obs.* 617. 2–*Ger. em.* 1324–*Park.* 1560. 1.

*Buds* woolly. *Calyx* bent back. *Bunch* none. *Fruit-stalk* woolly. *Flower-scale* egg-shaped, embracing the fruit-stalk, generally with 3 divisions. *Flower* single, pendant. *Leaf-stalk* fringed with knobbed hairs. A triple *thorn* beneath the buds. LINN.

*Smooth Gooseberry.* Woods and hedges. Parker's Piece, Girton, Shelford, Ditton, Harston church-yard, and Triplow, Cambridgeshire. RELHAN.—[Road between Newport and the Light-house in the Isle of Wight, in a hedge far from any house.] S. Apr. May.

HE'DERA. *Petals* 5, oblong: *berry* 4 or 5-celled, 3 to 5-seeded; juiceless, encircled by the calyx.

He'lix. H. Leaves, some egg-shaped, others lobed.

*Curt.–Fl. dan.* 1027–*Sheldr.* 103–*Blackw.* 188–*Trag.* 801–*Ger.* 708. 2 *and* 1–*Fuchs.* 722, *and* 723–*J. B.* ii. 111. 1 *and* 2–*Dod.* 413. 1 *and* 2–*Lob. obs.* 336. 2, *and* 337. 1 –*Ger. em.* 857. 1 *and* 2–*Park.* 678. 1, *and* 679. 4–*Matth.* 624 *and* 625.

When it trails on the ground its *branches* are small and weak, and its leaves with 3 lobes. CURT. In which state it does not produce fruit, and has been called *Barren* or *Creeping Ivy*. STOKES.—But when it climbs up walls or trees it grows much stronger, and the leaf changes to egg-shaped. CURT. *Leaves* glossy. *Bloss.* greenish white. *Berries* black.

*Common Ivy.* Woods, hedges, and old buildings. S. Oct.*

ILLE'CEBRUM. *Calyx* 5 leaves, like gristle: *bloss.* none: *summit* simple: *caps.* 5-valved, 1-seeded.

* The roots are used by leather-cutters to whet their knives upon. Its ever-green leaves adorn our walls, and cover the naked trunks of trees. Apricots and peaches covered with ivy during the month of February, have been observed to bear fruit plentifully. *Phil. Trans.* No. 475. The leaves have a nauseous taste. Haller says they are given in Germany as a specific in the atrophy of children. Common people apply them to issues. The berries have a little acidity. They purge and vomit. In warm climates a resinous juice exsudes from the stalks. Horses and sheep eat it. Goats and cows refuse it. LINN.—Sheep are fond of it. ST.—And in severe weather it is stripped off the trees as food. Mr. HOLLEY.

1. Flowers in whirls, naked: stems trailing. verticilla'tum

*Kniph.* 12–*Fl. dan.* 335–*Vaill.* 15. 7–*J. B.* iii. 378. 2–*Pet.* 10. 7–*Ger. em.* 563–*Park.* 1333–*Ger.* 449. 1.

*Leaves* oval, keeled, fleshy. *Upper whirls* crowded near together, by no means so far asunder as in Fl. dan. Mr. Woodw. Plant about 3 inches high. *Flowers* whitish.

*Whorled Knotgrass.* Marshes and wet pastures. [In Cornw. and Devon, not uncommon. On the road side betwixt Elnal and Ranton Abbey, Staffordsh.] P. July. Sept.

GLAU'X. *Cal.* 1 leaf: *bloss.* none: *caps.* 1-celled, 5-valved, 5-seeded.

G. mari'tima.

*E. bot.* 13–*Lob. obs.* 227. 2–*Ger. em.* 562–*Park.* 1283. 2–*Fl. dan.* 548–*Ger.* 448.

*Leaves* oval-oblong. Linn. From 2 to 4 inches high; often trailing. *Flowers* numerous, purplish or whitish.

*Sea Milkwort. Black Saltwort.* Salt marshes, not uncommon. [Salt Marsh at Ingestree, Staffordsh. Mr. Bagott.—Norfolk coast. Mr. Woodward.—Cornish coast. Mr. Watt.—Near Bristol. Mr. Swayne.—Below King's Weston, Portland Island.] P. June, July.*

THE'SIUM. *Cal.* 1 leaf, on which the stamens grow: *seed* 1; beneath.

T. Spike branched: floral-leaves by threes: leaves strap-spear-shaped: calyx tube very short. *E. bot.* linophyl'lum.

*Dicks. h. s.–E. bot.* 247–*Ger. prov.* 17. 1–*Relh. at p.* 99–*H. ox.* xv. 1. 3–*Kniph.* 9–*Clus.* i. 321. 1–*Ger. em.* 555–*Park.* 459. 6–*Ger.* 442. 7–*Pet.* 9. 5–*J. B.* iii. 461. 3.

*Floral-leaves* cloven into 3, the middle segment long and pointing downwards. Woodward. *Stems* ascending, mostly branched, and from 3 to 5 inches high; sometimes upright, but little branched, and 10 inches high. *Flowers* mostly in bunches, but sometimes the lower ones forming a panicle. *Calyx* 4 or 5 cleft, widely conical. *Stamens* 4 or 5.—Dr. Smith says that the T. alpinum differs from this in having a long tubular calyx, but that otherwise they are much alike. In a specimen of the T. *alpinum* from Switzerland, the leaves are not only broader than in our *linophyllum*, but standing more upright they clothe and nearly hide the stem, which is never the case with our plant.

* Cows eat it. Mr. Atkinson says it is much used as a pickle.

Dry heaths and hills in a calcareous soil. [Common in Dorsetsh. Dr. PULTENEY.—Chalk cliffs on the S. W. side of the Isle of Wight. Dr. STOKES.—Near Bury, Suff. Mr. WOODW. —In the loose sand by the ferry leading to Portland Island. Mr. STACKHOUSE.] P. June, July.

## VIN'CA. *Bloss.* salver-shaped: *seed-vess.* 2 upright little bags: *seeds* naked.

mi'nor. V. Stems trailing: leaves spear-egg-shaped: flowers on fruit-stalks.

*Curt.* 172–*Ludw.* 75–*Kniph.* 1–*Sheldr.* 22–*Blackw.* 59–*Dod.* 405–*Lob. obs.* 360. 1–*Ger. em.* 894. 1.–*Park.* 381. 1–*J. B.* ii. 131–*Matth.* 956–*Walc.*–*Trag.* 394–*Fuch.* 360.

*Leaves* blunter, smooth at the edge. *Fruit-stalks* curved. *Cal.* short. LINN. Flowering-stem upright in the spring, but in autumn it bears flowers on the shoots of the year, which are trailing. Mr. WOODWARD. *Calyx* shorter than the tube of the blossom. *Style* inversely conical. *Upper summit* woolly. *Leaf-stalks* short. *Bloss.* blue or white.

*Lesser Periwinkle.* Woods and hedges, but rare. [Near Hampstead. Earsham Wood, plentifully. Mr. WOODWARD. —Rainsal brow, near Manchester, plentiful. Mr. CALEY. In a lane leading from the Larches to the Moseley road, near Birmingham.] P. April, May.*

ma'jor. V. Stems upright: leaves egg-shaped: flowers on fruit-stalks.

*E. bot.* 514–*Curt.* 222–*Tourn.* 45–*Walc.*–*Clus.* i. 121. 2–*Dod.* 406. 1–*Lob. obs.* 360. 2–*Ger. em.* 894. 2–*Park.* 381. 2–*J. B.* ii. 132–*Garid.* 81.

*Leaves* fringed with hairs at the edge. *Calyx* as long as the tube of the blossom. *Bloss. tube* woolly within, just above the anthers. *Leaf-stalks* long. *Bloss.* blue, with a blush of purple.

*Greater Periwinkle.* Woods and hedges. [A grove in Thorpe, by Norwich, Mr. WOODWARD.—Isle of Wight, to the South of Yarmouth, plentiful.] P. May.

* The ripe *seed-vessel* I have never been able to discover. CURT.—The fruit seldom comes to maturity, and *Cæsalpin.* seems the only one that has observed it in this state. It may, however, be easily obtained by planting the V. *major* in a pot, where the roots not having free room to extend themselves, the juices are more copiously propelled towards the pistil, which then expands into well-formed seed-vessels. TOURN.

## DIGYNIA.

HERNIA'RIA. *Cal.* with 5 divisions: *bloss.* none: *stam.* 5 perfect, and 5 imperfect: *caps.* 1-seeded.

H. Plant smooth. gla'bra.

*Fl. dan.* 529–*E. bot.* 206–*Trag.* 527–*Matth.* 953–*J. B.* iii. 378. 3–*Ger.* 454–*Dod.* 114–*Ger. em.* 569–*Blackw.* 320–*Pet.* 10. 9–*Park.* 447. 9.

*Stem* prostrate, wood-like, and knotted at the bottom, branches trailing, flowers very numerous, without petals; floral-leaves triangular, fringed. This is undoubtedly a perennial plant, and its leaves are generally fringed at the edge, so that I believe the H. glabra and hirsuta may be the same plant. Mr. STACKHOUSE. *Stems* from 4 to 8 inches long, trailing on the ground. *Flowers* yellowish.

*Smooth Rupturewort.* Gravelly soil. Lizard Point, Cornwall. HUDS. P. July, Aug.*

H. Plant rough with hair. hirsu'ta.

*Sheldr.* 110–*Pet.* 10. 10–*J. B.* iii. 379. 1–*H. ox.* v. 29. *row* 1. 2. 6.

Scarcely more than a variety of *H. glabra.* LINN.

*Hairy Rupturewort.* Gravelly soil. Calney Hatch, near Barnet. A. July, Aug.

CHENOPO'DIUM. *Cal.* with 5 clefts and 5 ribs: *bloss.* none: *seed* 1, round but flatted, superior, horizontal, covered by the closing calyx.

(1) *Leaves angular.*

C. Leaves triangular-arrow-shaped, very entire: spikes compound, leafless; axillary. Bonus-Henri'cus.

*Curt.* 184–*Ludw.* 185–*Fuchs.* 463–*J. B.* ii. 965. 2–*Fl. dan.* 579–*Ger.* 259–*Trag.* 217–*Matth.* 598–*Dod.* 651–*Lob. obs.* 129. 2–*Ger. em.* 329–*Park.* 1225. 6–*H. ox.* v. 30. *row* 2. *n.* 1. *figure* 3*d*–*Pet.* 7. 12–*Blackw.* 311–*Munt.* 191.

*Little spikes* alternate; sitting. *Flowers* congregated; sitting.

* A little saltish and astringent. It increases the secretions by the kidneys. The juice takes away specks in the eye. Cows, sheep, and horses eat it. Goats and swine refuse it.

LINN. *Leaves* waved at the edge. *Bloss.* greenish white. HALL. *Lower little spikes* on short fruit-stalks rising from the bosom of the flower-leaves.

*Mercury Goosefoot. Common English Mercury. All-good. Good Henry. Good King Henry. Wild Spinage.* Amongst rubbish, on road sides, and walls, [and sometimes in pastures. SM.] P. May.*

ur'bicum. C. Leaves triangular, somewhat toothed: bunches crowded, quite straight, laid close to the stem, very long.

*E. bot.* 717–*Fl. dan.* 1148–*Pet.* 8. 8.

Possibly a variety of *C. rubrum.* There seems no distinction except in the bunches: but in the English Botany we are informed, on the authority of Mr. Curtis, that an attention to the size of the seeds will readily determine betwixt these two species; the ripe seeds of C. rubrum being no larger than grains of writing sand, whereas those of C. urbicum are at least five times that size, or about as big as rape seed. *Calyx* smaller. Mr. WOODW. *Leaves* widely and deeply notched.

*Upright Goosefoot.* Dunghills, and amongst rubbish.
A. Aug. Sept.

ru'brum. C. Leaves heart-triangular, rather blunt, and toothed: bunches upright, compound, somewhat leafy, shorter than the stem.

*Curt.–Fl. dan.* 1149–*Fuchs.* 653–*J. B.* ii. 975. 2–*Dod.* 616. 1–*Ger. em.* 328. 1 *and* 2–*Matth.* 462–*Lob. obs.* 128. 1–*Park.* 749. 8–*H. ox.* v. 31. *row* 2. 2–*Pet.* 8. 6.

When full grown, red and spreading. *Stems* lying on the ground. *Leaves* thick, shining. *Spikes* with sitting balls of flowers, interspersed with strap-shaped leaves. LINN. *Bunches* short, close, branched. WOODWARD. *Leaves* trowel-shaped, toothed, indented; teeth tapering. *Bunches* upright, compound, leafy, shorter than the leaves. Dr. STOKES. *Leaves* with their leaf-stalks as long or longer than the branches that rise from them; no shining spangles upon them or the calyx, so as to give the plant a white appearance, but when held against a strong light an infinite number of shining particles appear. *Bunches* sitting in the bosom of the upper leaves.

*Red Goosefoot. Sowbane.* Dunghills, rubbish, and cultivated ground. A. Aug.

* Cultivated as spinage by the poor people at Boston, in Lincolnshire. CURT.—The young shoots peeled and boiled, may be eaten as asparagus, which they resemble in flavour. They are gently laxative. The leaves are often boiled in broth. The roots are given to sheep that have a cough.—Goats and sheep are not fond of it. Cows, horses, and swine refuse it.

C. Leaves diamond-triangular, gnawed, entire behind; the uppermost oblong: bunches upright. *al'bum.*

*Curt.*–*Blackw.* 553–*Fuchs.* 119–*J. B.* ii. 972. 1–*Dod.* 615. 2–*Ger. em.* 326. 6–*Ger.* 257. 4–*Pet.* 8. 2.

*Plant* whitish when full grown. *Bunches* always branched, and, as it were, tuftlike, straight, composed of clustered spikes. *Spikes* small, egg-shaped, sitting, alternate, crowded; composed of flowers set close together. *Flower-leaves* strap-shaped, very entire, sitting, small, 2 or 3 to each spike. LINN. *Stem* shining, bluntly angular, streaked with green, purple, and white. *Branches*, 2 together, especially at the lower part of the stem. *Leaves* with 3 semi-transparent veins springing from the base, sprinkled especially on the under side, with white shining particles; the upper spear-shaped.

*Common Wild Orache. White Goosefoot.* Corn fields, old dung-hills, rubbish, and gardens, common. A. Aug.*

Var. 2. HUDS. *Chenopodium viride*, which see.

Var. 3. HUDS. Leaves generally very entire, sometimes toothed. RAY *p.* 155. *n.* 12.

*J. B.* ii. 973. 2.

Var. 4. HUDS. Leaves thick, blunt. RAY. *p.* 156. *n.* 13. A. Aug. Sept.

C. Leaves diamond-shaped, toothed, indented: bunches branched, sometimes leafy. *vir'ide.*

*Curt.* 103–*Fl. dan.* 1150–*Vaill.* 7. 1.–*Pet.* 8. 3.

*Stem* upright, green; with purplish angles. *Leaves of the branches* spear-shaped, very entire, with only 1 or 2 teeth. *Bunches* thread-shaped, divided, long, bare. *Calyx* of the fruit with 5 sharp angles, so nearly allied to the preceding as to render it doubtful whether it be a distinct species, or only a variety produced by difference of soil. LINN. Angles of the joints constantly bright red; *seeds* reticulated with impressed dots, but in the Ch. *album* they are smooth. CURT.

*Green Goosefoot.* Kitchen Gardens, common. A. Aug.

C. Leaves heart-shaped, with angles tapering to a point: bunches branching, leafless. *hy'bridum.*

*Curt.* 248–*Vaill.* 7. 2–*Barr.* 540–*Pet.* 8. 7.

*Leaves* rather lopped at the base; 2 or 3 large teeth on each side. *Bunch* at first compact, but forming a panicle when fully

* Cows, goats, and sheep eat it. Horses refuse it. Swine are extremely fond of it. LINN. Horses sometimes eat, and even appear fond of it. ST. A black *Aphis* feeds upon it, and sometimes destroys it. ST.

expanded, much lighter and more widely scattered than in any of the preceding species.

*Maple-leaved Goosefoot.* Rubbish, kitchen gardens, and corn fields. Near Northfleet. A. Aug.

glau'cum. C. Leaves egg-oblong, serpentine: bunches naked, simple, clustered.

*Fl. dan.* 1151–*J. B.* ii. 973. 1–*Pet.* 8. 1.

Smaller than any of the preceding. *Leaves* glaucous green on the under surface.

*Oak-leafed Goosefoot.* On rubbish. A. Aug.

mura'le. C. Leaves egg-shaped, shining, toothed, acute: bunches branching, leafless.

*Pet.* 8. 5–*Ger.* 256. 2–*J. B.* ii. 976. 1.

Of a green colour. *Stems* upright, open, thick, smooth on the upper side. *Leaves* thickish, glossy, smooth, very like those of *C. rubrum*, but more sharply toothed. *Flowers* in a corymbus, as in *C. hybridum*, not in bunches as in *C. rubrum*. Fruit in a sort of panicle. LINN.

*Wall Goosefoot.* Dunghills, and rubbish. A. July, Aug.

(2) *Leaves entire.*

o'lidum. C. Leaves very entire, diamond-egg-shaped: flowers congregated, axillary.

*Curt.–Fl. dan.* 1152–*Woodv.* 145–*Ger* 258–*Dod.* 616. 2–*Lob. obs.* 128. 4–*Ger. em.* 327–*Park.* 749. 9–*Pet.* 7. 11–*Blackw.* 100–*J. B.* ii. 975. 1–*H. ox.* v. 31. 6.

Trailing on the ground and smelling like salt fish.

*Stinking Orache. Stinking Goosefoot. Ch. vulvaria.* LINN. Road sides, old walls, and on rubbish. [At the foot of the Walls, Yarmouth, and at Cambridge. Mr WOODWARD. Opposite Shoreditch Workhouse. Mr. WHATELY.] A. Aug.*

polyspermum. C. Leaves very entire, egg-shaped: stem upright: calyx of the fruit open. CURT.

*Curt. Fl. dan.* 1153.–*Fuchs.* 174–*H. ox.* v. 30. *row* 3. 6–*Dod.* 617. 2–*J. B.* ii. 967. 2–*H. ox. ib.* 3–*Ger.* 257.

* Scent rank, and fetid. It has got the reputation of being an antihysteric. Cows, horses, goats, and sheep eat it. Swine refuse it.—The *Phalæna exsoleta* is found upon it.

3–*Pet.* 7. 10–*Lob. obs.* 129. 1–*Ger. em.* 325. 3–*Park.* 754. 3.

*Leaves* sometimes in the more luxuriant plants with a large tooth on one, and sometimes on both sides. Dr. STOKES. *Stem* square, bright red. *Seeds* reddish. CURT. Leaves egg-spear-shaped. *Stamens* very evanescent; it is rare to be met with 5; sometimes there are only 3, often but 1 or 2, frequently none.

*Upright Blite. All-seed Goosefoot.* Cultivated ground and dunghills. [Generally in turnep fields. Mr. WOODWARD.] A. July, Aug.

C. Leaves awl-shaped, semi-cylindrical. *maritimum.*

*Dicks. h. s.–E. bot.* 633–*Fl. dan.* 489–*Dod.* 81. 2–*Ger. em.* 535. 3–*Park.* 279. 2–*Lob. ad.* 170. 1–*Pet.* 9. 1.

*Leaves* accurately semi-cylindrical. Mr. WOODWARD. *Branches* alternate. *Flowers* solitary, axillary. *Style* single. *Summits* 3, pink-coloured. *Seeds* glossy.

*Small White Glasswort. Small Glasswort. Sea Goosefoot.* Sea Shore. [Salt Marshes. Mr. WOODWARD.] A. Aug.*

A'TRIPLEX. *Bloss.* none. Flowers some hermaphrodite: others fem. on the same plant.

Herm. *Calyx* 5-leaved: *seed* 1, depressed, upright.

Fem. *Calyx* 2-leaved; *seed* 1, compressed.

A. Stem shrub-like: leaves inversely egg-shaped. *portulacoi'des.*

*E. bot.* 261–*Dod.* 771. 1–*Ger. em.* 523. 2–*Matth.* 160–*J. B.* i. *b.* 228–*Kniph.* 2–*Clus.* i. 54–*Lob. obs.* 213. 1; *ic.* i. 392. 1–*Ger. em.* 523. 3–*Park.* 724. 1–*Pet.* 7. 7.

*Stem* and *branches* usually declining. *Leaves* sea-green, the young ones spear-shaped, and strap-spear-shaped. *Bunches* branched, terminating, and from the bosom of the upper leaves, with a few small leaves interspersed. Mr. WOODWARD. Whitish. *Spikes* greenish purple.

*Shrubby Orache. Sea Purslane.* Sea shores on a clayey soil. S. July, Aug.

A. Stem herbaceous, spreading: leaves trowel-shaped, angular and toothed; very mealy underneath. *E. bot.* *lacinia'ta.*

* An excellent pot-herb.—The *Phalæna Lubricipeda* feeds upon most of the species.

*Dicks. h. s.–E. bot.* 165–*Matth.* 463–*Park.* 748. 4–*Ger.* 257. 4–*Dod.* 615. 4–*Lob. obs.* 128. 3, *ic.* i. 255. 1–*Ger. em.* 325. 4–*J. B.* ii. 974. 1–*H. ox.* v. 32. 17–*Pet.* 7. 3.

*Stem* much branched, spreading, generally prostrate, smooth, yellowish or reddish. *Leaves*, the lower trowel-shaped, the upper trowel-spear-shaped; below very entire at the edge, above variously jagged, sprinkled with a shining mealiness; mostly alternate, some few even of the upper ones opposite. *Leaf-stalks* very short. *Valves of the seeds* very large, trowel-shaped, covered with the same mealiness as the leaves. WOODWARD. Female flowers axillary. *E. bot.*

*Frosted Orache.* Sea shores. [Near Harwich. Dr. J. E. SMITH. Pakefield, Suffolk. Mr. STONE. Ramside opposite the Isle of Walney and Rosebeck Low Furness, Lancashire. Mr. WOODWARD.] A July, Aug.

hasta'ta. A. Stem herbaceous: calyx valves of the female flowers large, trowel-shaped, indented.

*Curt.–H. ox.* v. 32. 14–*Pet.* 7. 1.

Varies in the *stem* being upright or trailing; the *leaves* trowel-shaped and indented-toothed, or toothed, or entire. HUDS. Agrees with *A. patula* as follows: *Stems* angular and somewhat furrowed. *Leaves* triangular and halberd-shaped, the appendages longer or shorter, toothed or entire, the upper usually spear-shaped and entire. *Valves of the seeds* larger than those of the *A. patula*, flatter, and toothed only at the edges. *Branches* often horizontal, and even bending down. Mr. WOODWARD.

*Wild Orache. Fat-hen. Lamb's-quarters.* On rubbish, dung-hills, and in kitchen gardens. A. Aug. Sept.*

Var. 2. Stems trailing. Leaves hardly indented. RAY. All the leaves oval-spear-shaped, very entire. Mr. WOODWARD.

*J. B.* ii. 974. 2–*Chabr.* 306. 4–*Pet.* 7. 2.

Banks of the sea marshes near Maldon, Essex. About London, and on the sea-side in Selsey, in Sheppey Island. *R. Syn.* [Yarmouth. Mr. WOODWARD.]

pat'ula. A. Stem herbaceous, spreading: leaves somewhat trowel-spear-shaped: calyx of the fruit toothed on the disc.

*Matth.* 560–*Dod.* 615. 3–*Lob. obs.* 129. 4; *ic.* i. 257. 2–*Ger. em.* 326. 7–*Park.* 748. 7–*H. ox.* v. 32. 15–*Pet.* 7. 5–*J. B.* ii. 973. 3, 4.

* It is sometimes gathered as a pot-herb, and eaten in lieu of spinach and other greens. Cows, goats, sheep, and swine eat it, but do not seem to be fond of it.

Resembles *A. hastata* which see. *Valves of the seeds* more convex, and toothed, and tubercled on the sides. Mr. WOODWARD.

*Spear Orache.* On rubbish and ditch-banks. A. Aug.

Var. 2. Leaves halberd-shaped, toothed: upper leaves strap-spear-shaped. *Atriplex erecta.* Hudson, ed. I.

At the entrance into Battersea Field from Nine Elms. *R. Syn.*

A. Stem herbaceous; upright: leaves all strap-shaped; very entire. LINN. or serrated. WOODWARD. littoralis.

Var. 1. Leaves very entire.

*E. bot.* 708–*Pet.* 7. 6.

Differs from *A. patula* as follows. Colour always sea-green. *Stem* furrowed. *Leaves* not always very entire, but sometimes with scattered teeth, and bowed back at the end. WILLICH. ill. n. 6. *Stems* numerous, at first trailing, afterwards declining or upright, much branched. *Leaves* perfectly strap-shaped, the lower now and then toothed. *Valves of the seeds* triangular, toothed at the edges.

By the Pier at Ramsgate, Kent. *R. Syn.* [Yarmouth, Blakeney, and Wells, Norfolk. Mr. WOODWARD. Chisselbank, Portland Island. Mr. STACKHOUSE.]

Var. 2. HUDS. *Boccon rar.* 30. 1–*H. ox.* v. 32. 20.

Var. 3. HUDS. Leaves blunter. Probably a variety of 1.

Ramsgate Pier, Kent, *R. Syn.*

Var. 4. Leaves toothed. WOODWARD.

*Gmel.* iii. 14. 2–*Pet.* 7. 4.

*Leaves* strap-shaped, alternate, fleshy, toothed, not very entire; in our country at least. ROTH. *Atriplex marina* according to Mr. Lightfoot, but Linnæus describes his *marina* as a plant about a hand's breadth high. Mr. WOODWARD. *A. serrata.* Stem herbaceous, nearly upright. Leaves strap-shaped, serrated. HUDS. *A littoralis.* Roth. ii. 89. n. 27. ST. I have found some stems with the very narrow entire leaves of the *A. littoralis*, and others, which were the largest and strongest, entirely cloathed with broader narrow elliptical leaves, toothed or jagged throughout, and serrated leaves both from the same root. Mr. WOODW.

*Grassleaved Orache. Atriplex valvis seminum integris foliis omnibus ex lineari-lanceolatis, integris et ex sinuato-dentatis.* Gmel. sib. iii. p. 72. Mr. WOODWARD.

Sea shores and on rubbish. By the river and on the banks of the marshes about Maldon, Essex, *R. Syn.* (Wells, Norfolk. Mr. CROWE—and Yarmouth and Blakeney, Norfolk. Mr. WOODWARD at Wisbeach. Mr. RELHAN.] A. Aug.

pedunculata. A. Stem herbaceous; straddling: leaves spear-shaped; blunt; entire: female flowers on fruit-stalks.

*E. bot.* 232–*Pluk.* 36. 1–*Pet.* 7. 8–*Fl. dan.* 304.

*Branches* straddling. *Bunches* terminating, axillary. *Fruit-stalks* lateral, simple, in pairs or incorporated. *Calyx* resembling the fruit of *Thlaspi Bursa Pastoris* with 3 lobes, the middlemost the smallest. LINN. *Stem* much branched. *Leaves* some inversely egg-shaped, sea green. *Female-flowers* on long fruit-stalks. *Valves of the fruit* egg-shaped, the middlemost lobe triangular and short. Mr. WOODWARD.

*Stalked Orache.* Sea shores. Near Scirbeck, 1 mile from Boston, and in the Isle of Thanet, near the Ferry. *R. Syn.* Near Yarmouth, [in the salt marshes out of the North gates. Mr. WOODWARD.—At LYNN. Dr. J. E. SMITH and Mr. CROWE.]

A. July—Sept.

Var. 2. Smaller; leaves small. Near Lynn, Norf. *R. Syn.**

HU'MULUS. Male and female flowers on different plants: *bloss.* none.

Male. *Calyx* 5-leaved.

Female. *Calyx* 1-leaved, with a slanting opening, entire: *seed* 1, within a leaf-like calyx.

lu'pulus. H.

*E. bot.* 427–*Mill. ill.*–*Kniph.* 9–*Gars.* 355–*Blackw.* 536. *a. b.*–*Clus.* i. 126. 2–*Dod.* 409. 1–*Lob. obs.* 347. 2; *ic.* i. 629. 1–*Ger. em.* 885–*Park.* 177–*Ger.* 737. 1–*Cam. epit.* 933 *fem. and male* 934–*Fuchs.* 164–*J. B.* ii. 151–*Trag.* 812–*Matth.* 1213–*Ger.* 737–*J. B.* ii. 152–*Lon.* i. 208. 3.

*Stems* climbing and winding to the right. *Leaves* lobed, serrated. *Flowers* greenish yellow.

*Common Hops.* In hedges. P. June.†

* The July Arrach Moth. *Phalæna Atriplicis*, *Phalæna lubricipeda*, *Phalæna exsoleta*, *Phalæna Oxyacanthæ*; and *Aphis Atriplicis* are found upon the different species.

† The English, according to the most credible accounts, learned the use of Hops from some native of Artois, who, in the beginning of the 16th century, introduced them into this country: but a long time after the addition of them to beer was held to be an adulteration of that liquor. MONTH. MAG.—If the hop-yards were covered with stones, the plants would be less liable to suffer from the honey dew or from the Otter-Moth: for the honey dew is the excrement of a species of *Aphis*, but these insects seldom increase so as to endanger the plant, unless it be in a weak

BE'TA. *Cal.* 5-cleft, 5-ribbed; closing on the ripened seed: *bloss.* none: *seed* kidney-shaped, horizontal, beneath, in the substance of the base of the calyx.

B. Flowers in pairs. mari'tima.

*E. bot.* 285.

Differs from *B. vulg.* in flowering the first year; in the leaves growing oblique or vertical; in the leaves of the cup being equal, and not toothed. LINN. *Stems* prostrate. *Flowers* either solitary or in pairs. *Summits* sometimes three. E. bot.

*Sea Beet.* Sea coast, and about Nottingham. [Near Lynn, Yarmouth, and Wells. Mr. WOODWARD. And Isle of Wight. ST. Dorsetshire coast.]. P. July. Sept.

SAL'SOLA. *Calyx* 5-cleft: *bloss.* none: *seed* 1, beneath; coated by the calyx.

S. Herbaceous, lying down: leaves awl-shaped, thorny, rough: calyces bordered, axillary. Ka'li.

*E. bot.* 634–*Fl. dan.* 818 *left hand fig.*–*Woodv.* 143–*Dod.* 81. 1–*H. ox.* v. 33. 11.

*Flowers* greenish.

*Prickly Glasswort, or Kelpwort.* [Sandy sea shores, frequent. WOODWARD.] A. July, Aug.

S. Shrub-like, upright: leaves thread-shaped, bluntish. frutico'sa.

*E. bot.* 635.–*Lob. adv.* 163. 3–*J. B.* iii. 704. 2.

weak condition; and the larvæ of the Otter-Moth at the roots, first occasion the plant to be sickly. Now when the hop grows wild in stony places and in fissures of rocks, where the moth cannot penetrate to deposit its eggs, the hop is never known to suffer from the honey dew.—The flowers of the female plants are very generally infused in wort or boiled along with it to prevent the ale or beer growing sour. The young shoots are eaten early in the spring as asparagus, and are sold under the name of Hop-tops.—Strong cloth is made in Sweden from the stalks. For this purpose they must be gathered in autumn, soaked in water all winter; and in March, after being dried in a stove they are dressed like flax.—Horses, cows, sheep, goats and swine eat it. The *Papilio Jo. C. album*, the Otter, *Phalæna Humuli* and *Rostralis* live upon it. It will dye wool yellow. What is that electrical murmur like very distant thunder when the hop-poles are shaken by the wind? LINN. Soil and cultivation occasion some varieties, as the *Garlic*, *Long White*, and *Oval Hop*; but for the common purposes of brewing they are distinguished as *Kentish* or *Worcestershire* Hops.—A decoction of the roots, or from 20 to 30 grains of the extract is said to be sudorific and to answer the purposes of the Sarsaparilla.—A pillow filled with hops is reported to produce comfortable repose in cases where Opiates have been unsuccessful.

*Shrub Stone-Crop, or Glasswort.* Sea shore. [Near Southwold. Suffolk, Mr. WOODWARD.] S. Aug.

UL'MUS. *Cal.* 5-cleft: *bloss.* none: *caps.* superior, 1-celled; leaf-like and compressed: *seed* solitary.

campes'tris. U. Leaves doubly serrated, unequal at the base; flowers almost sitting, crowded together.

*Woodv.* 197–*Fl. dan.* 632–*Hunt. Evel.* i. *p.* 114. *ed.* 2–*Park.* 1404. 1. 6–*Matth.* 144–*Lob. obs.* 607. 1–*Ger. em.* 1480. 1–*Park.* 1404. 1–*Ger.* 1297. 1–*Trag.* 1087.

The *flowering-buds* are beneath the leaf-buds. *Flowers* in a kind of corymbus. *Bark* of the trunk cracked and wrinkled.

*Common Elm.* Hedges. Not found to the north of Stamford. RAY. Plentiful in Worcestershire and Middlesex. Chiefly in hedge rows. T. March, April.*

Var. 2. *small.* Differs from the preceding only in the smallness of all its parts. RAY.

*Dod.* 837–*Ger. em.* 1480. 2–*Park.* 1404. 4.

Between Christ Church and Limmington. RAY. [In Lord Dudley's woods, at Himley, Staffordshire.]

*Narrow-leaved Elm.*

Var. 3. Leaves smooth. GER. EM. RAY. *&c.*
Stamens from 4 to 6.

*Ger.* 1297. 2–*Ger. em.* 1481. 4–*Park.* 1404. 3.

*Witch Elm.* Road beyond Dartford, and near Rumford. RAY. and GER. [Growing to a very large size in Edgbaston Park.] T. March, April.

* A decoction of the inner bark drank freely has been known to carry off the water in dropsies.—It cures the *Lepra ichthyosis* of Sauvages. *Lettsom's Med. Mem.* § 3.—The bark dried and ground to powder, has been mixed with meal in Norway to make bread, in times of scarcity.—The flowers have a violet smell.—The wood being hard and tough is used to make axle-trees, mill-wheels, keels of boats, chairs, and coffins.—The tree is beautiful, and well adapted to make shady walks as it does not destroy the grass, and its leaves are acceptable to Cows, Horses, Goats, Sheep and Swine; for this purpose it should be grafted upon the *U. glabra*, and then the roots will not send out suckers, which the common elm is very apt to do, and give a great deal of trouble to keep the ground clear of them.—It loves an open situation, and black or clayey soil. It bears to be transplanted.—*Papilio polychloros*, and *C. album*; *Phalæna lubricipeda*, *Pavonia betularia* and *vellica*; *Cimex ulmi* and *striatus*; *Cicada ulmi*; *Aphis ulmi*, feed upon it. The latter generally curl the leaves, so as to make them a secure shelter against the weather. LINN.—Silk-worms will devour the tender leaves with great avidity. *Trans. of Soc. of Arts*, ii. 157.

U. Leaves doubly serrated, unequal at the base, egg-shaped but taper-pointed; smooth. monta'na.

*Lob. ic.* ii. 189. 2–*Ger. em.* 1481. 3–*Park.* 1404. 2.

Bark of the trunk very much cracked, that of the branches smooth. *Flowers* scentless, from 6 to 15 in a corymbus; leaf-buds and flower-buds distant. Mr. Gough. Clefts of the calyx 5, 6, and in one instance 4 and 9. *Stam.* 5 and 6. *Summits* 3. I am clearly of opinion that it is a distinct species. Stokes. *Flowers* on long fruit-stalks.

The *bark* will peel from the boughs for many feet without breaking. The *boughs* spread themselves wider, and hang more down than those of the *U. campestris*. *Leaves* and *seeds* much larger. Johnson *in Ger. em.* *Trunk* soon dividing into long wide-spreading winged branches; when at its full growth seldom rises to above one third of the height of the *U. campestris*. It flowers when even under 30 feet high, while the *U. campestris* seldom flowers till it has gained a much greater age and height. *Branches* very brittle. Dr. Stokes.

*Wych Hasel. Broad-leaved Elm. Ulmus montana.* C. B. pin. *Ulmus effusa Wildm.* Shady lanes, and outskirts of woods. Ray. It is certainly a native. Lightfoot. In Scotland, and the north of England, it seems more peculiarly to prevail, from the scarcity of the *U. campestris*, which last Linnæus notes as growing near the villages of Europe, whereas this species is found in woods and brakes, as well as hedge rows. St. [About Kendal, in Westmoreland. Mr. Gough.] T. March, April.

SWER'TIA. *Bloss.* wheel-shaped; nectariferous pores at the base of the segment: *caps.* 1-celled, 2-valved.

S. Blossoms 5-cleft: root-leaves oval. peren'nis.

*Jacq. austr.* 243–*Kniph.* 7–*Clus.* 1. 316. 2–*Ger. em.* 433. 5–*Barr.* 91–*H. ox.* xii. 5. 11.

*Marsh Gentian. Marsh Felwort.* Mountainous places in Wales. P. Aug.

GENTIA'NA. *Bloss.* 1 petal: *recept.* of the seeds 2, placed lengthwise: *caps.* 2-valved, 1-celled.

G. Blossoms 5-cleft: bell-shaped; on fruit-stalks: leaves strap-shaped. Pneumo-nan'the.

*Dicks. h. s.–Kniph.* 8–*Fl. dan.* 269–*E. bot.* 20–*Gmel.* iv. 51. *A.–Matth.* 646–*Clus.* i. 313. 2–*Lob. obs.* 166. 2–*Ger. em.* 438–*Park.* 406. 1–*H. ox.* xii. 5. 12–*Ger.* 355–*Barr.* 51. 1 –*J. B.* iii. 524. 1.

As the flowers are not always opposite, not even in large and cultivated specimens, that circumstance is omitted in the Sp. char. because, as Dr. Smith has well observed, it can only tend to mislead.

*Blossoms* blue.

*Calathian Violet. Marsh Gentian.* Moist pastures. [Stratton Heath, Norfolk. Mr. CROWE. Newton Heath, near Manchester. Mr. CALEY.—Rollesby Heath, Hopton Heath, near Yarmouth. Mr. WIGG.—In a marsh on a heath near Holmes Chapel, Chesh. Mr. HUNTER.—Walney Isle. Mr. JACKSON.] P. Aug.

ver'na. G. Blossom 5-cleft, funnel-shaped, tooth-serrated, longer than the stem: root-leaves crowded, larger than the stem-leaves: summits fringed.

*E. bot.* 493–*Jacq. obs.* 71–*Cam. hort.* 15. 2–*Clus. hist.* 315. *Lob. ic.* 310. 2–*Ger. em.* 436–*Park.* 403.

*Stem* simple, supporting a single flower, ascending; *Leaves* rather fleshy, dotted with glands, ovate, not at all pointed; 4 or 6 in opposite pairs near the root, and two or three pair on the stem. These pairs are united at the base so as to form a kind of cup round the stem. *Calyx* something more than half the length of the tube of the blossom. *Bloss.* fine blue, seldom so long as the stem; segments serrated and toothed; between each segment there is a little blue 2-horned appendage, issuing from a white stripe in the tube of the blossom. *Anthers* shorter than the tube. *Summits* 2, funnel-shaped, fringed; open on the inner side.

This species and the G. bavarica are nearly allied; the most obvious difference consisting in the tuft of leaves at the base of the stem, which does not exist in the bavarica. This plant cannot be the *Gentianella fugax verna seu præcox.* Ray *Syn.* 275, if he has rightly quoted the figure of Col. Ecphr. t. 221.—*Gentiana bavarica. Jacquin. obs.*

First discovered by the Rev. Mr. HARRIMAN and Mr. OLIVER, growing in great abundance in Teesdale Forest, county of Durham, both on the low grounds and on the bordering mountains, where it is vulgarly called *Spring Violet*, or *Blue Violet.* P. April, May.

niva'lis. G. Blossoms 5-cleft, funnel-shaped: branches axillary, alternate, 1-flowered: calyx with 5 keeled angles.

*Fl. dan.* 17.–*Lob. adv.* 131. *and ic* i. 3. 10. 3–*Hall. enum.* 75.

*Bloss.* tube greenish, border a beautiful blue. Haller.

On Ben Lawers, Scotland. DICKSON. Linn. Tr. ii. 290. A.

Amare'lla. G. Blossom 5-cleft, salver-shaped; mouth bearded: calyx segments equal.

*E. bot.* 236–*Fl. dan.* 328–*Kniph.* 7–*Walc.*–*Clus.* i. 316. 1–*Ger. em.* 437–*Park.* 406. 3–*H. ox.* xii. 5. 3–*Ger.* 354. 1–*Barr.* 510. 1–*J. B.* iii. 526. 2 *and* 3.

Scarcely to be distinguished from the G. campestris, but by the calyx. LINN. Lower flowers often 4-cleft, especially in plants which have been bitten off and shot up afresh, in which case also it often produces very minute double flowers, the segments curling in, so as to form a kind of button. WOODWARD. *Bloss.* blue.

*Autumnal Gentian. Felwort.* In dry pastures, mostly on calcareous soil. [Canham Heath, near Bury, Broughton Heath. Huntingdonshire; and Dunstable Hills. Mr. WOODWARD. About Gordale, *below* the waterfall. Mr. WOOD. Arthur's Seat, Edinburgh. Mr. BINGHAM. River side opposite St. Vincent's rocks.] A. Aug. Sept.

Var. 2. *Bloss.* 4-cleft.

*Walc. named G. campestris.*

Dunstable Hills. Mr. WOODWARD.

Var. 3. Early flowered. Ray *Syn.* 275.

*Col. Ecphr.* 221.

Near Kendal, on the back side of Hells-fell-nab. Mr. Ray was misinformed of this being the vernal dwarf Gentian. Mr. Fitz-Roberts told Mr. Wilson that the plants he had mentioned to Petiver were the Autumnal Gentian flowering sooner than common.

*Gentianella fugax verna, seu præcox.*—*Gentianella purpurea minima.* April—June.

G. Blossom 4 or 5-cleft; mouth bearded: calyx segments, 2 of them larger. campestris.

*E. bot.* 237–*Fl. dan.* 367–*Barr.* 97. 2–*H. ox.* xii. 5, *row* 3. 9.

*Calyx* 2 outer opposite segments flat, upright, twice as broad as those between them. *Stam.* 4. LINN. *Calyx-leaves* distinct, or merely adhering at the base; the 2 *outer* egg-spear-shaped; the *inner* spear-shaped, somewhat membranaceous, not more than $\frac{1}{4}$th the breadth of the outer. WOODWARD. *Bloss.* blue.

*Field Gentian.* Mountainous pastures. About Kendal. WOODWARD. Llanberys, Wales, and Perian Round, Cornwall. HUDS. [Boggy field adjoining to Horsforth Beck, 4 miles from Leeds, plentiful. And amongst the high rocks above the waterfall in Gordale. Mr. WOOD. Sea coast, Cheshire. Stratton Heath, Norfolk. Mr. CROWE.] A. Aug.—Oct.

G. *Centaurium*, see Chironia *Centaurium*.

G. *filiformis*, see Exacum *filiforme*.

XAN'THIUM. Male and female flowers on the same plant.

Male. *Cal.* common, tiled: *bloss.* 1 petal, funnel-shaped, 5-cleft: *recept.* chaffy.

Fem. *Involucr.* 2-leaved, 2-flowered: *bloss.* none: *caps.* double, prickly, cloven: *nut* 2-celled.

Struma'rium. X. Stem thornless: leaves heart-shaped; 3-fibred.

*Fl. dan.* 970–*Blackw.* 444–*Fuchs.* 579–*J. B.* iii. 572–*Trag.* 839–*Lonic.* i. 65. 1–*Ger.* 664. 2–*Matth.* 1204–*Dod.* 39. 1–*Lob. obs.* 319, *ic.* i. 588. 2–*Ger. em.* 809. 2–*Park.* 1223. 4–*Gars.* 642.

*Male flowers* in a branched bunch, terminating the stem and branches. *Fem. flowers* immediately beneath, in the bosoms of the upper leaves. Mr. WOODWARD.

*Lesser Burdock. Burdock Clotweed.* On dunghills, and ground highly manured. A. June—Sept.*

ERYNG'IUM. Flowers forming a head: general *involucr.* many-leaved: *recept.* chaffy: *seeds* rough with flexible scales.

marit'imum. E. Root-leaves roundish, plaited, thorny: flowering heads on fruit-stalks: chaff 3-pointed.

*Dicks. h. s.*–*E. bot.* 718–*Kniph.* 9–*Woodv.* 102–*Fl. dan.* 875–*Blackw.* 297, 1 *and* 11–*Matth.* 680–*Clus.* ii. 159. 2–*Dod.* 730. 1–*Lob. obs.* 490. 1–*Ger. em.* 1162. 1–*Pet.* 999. 1–*Park.* 986. 1–*H. ox.* vii. 36. 6–*J. B.* iii. *a.* 86. 2.

*Root-leaves*, and *lower stem-leaves* 3-cleft, on fruit-stalks; *upper* embracing the stem. *Leaf-stalks* embracing the stem. Mr. WOODWARD. *Leaves* mealy on the surface, with a whitish wood-like border; angles ending in sharp whitish thorns. *Bloss.* whitish blue.

*Sea Eryngo. Sea Holly.* Sea shore, common. [At Yarmouth. Mr. WOODWARD.—And on the sands at Hayle, Portawen, Portreath, and Penzance, Cornwall. Mr. WATT.—N. Shore, Liverpool. Mr. CALEY.] P. July, Aug.†

* The leaves are bitter and astringent.—A decoction of the whole plant affords a showy yellow colour; but it is better if only the flowers are used. Horses and goats eat it. Cows, sheep, and swine refuse it.

† The leaves are sweetish, with a light aromatic warmth and pungency. The roots are supposed to have the same aphrodisiac virtues as the Orchis tribe. They are kept in the shops, candied.

E. Root-leaves embracing the stem, winged, spear-shaped. campes'tre.

*Jacq. austr.* 155–*Fuchs.* 296–*J. B.* iii. *a.* 85–*Matth.* 679–*Fl. dan.* 554–*Blackw.* 297. 2–*Ger.* 999. 2–*Clus.* ii. 157. 2–*Dod.* 730. 2–*Lob. obs.* 490. 2–*Ger. em.* 1162. 2–*Park.* 986. 2–*H. ox.* vii. 36. *row* 2. *n.* 1. *f.* 2–*Trag.* 871.

*Root* and *lower stem-leaves* on leaf-stalks, doubly and trebly divided into winged clefts. *Leaf-stalks* long, sheathing the stem at the base. Mr. WOODWARD. *Petals* blue; sometimes white, or yellowish.

*Eryngo. Common Eryngo. Eryngium. Blackw. a Trew n.* 297. ST. Watlingstreet Road, opposite Brookhall, near Daventry. On a rock as you go down to the ferry from Plymouth into Cornwall. On the shore called Friar Goose, near Newcastle upon Tyne. Ray *Syn.* 222. [About Sunderland and Newcastle. Mr. ROBSON.] P. July, Aug.

## HYDROCO'TYLE. *Umbel* simple, on a foot-stalk: *involucr.* of 2 or 4 leaves: *petals* entire: *fruit* compressed, bulging, divisible into two parts.

II. Leaves target-shaped, notched: umbels 5-flowered.. vulga'ris.

*E. bot.* 751–*Fl. dan.* 90–*Dod.* 133. 1–*Lob. obs.* 209. 4–*Ger. em.* 529. 5–*Ger.* 424. 3–*Park.* 1214–*Pet.* 6. 12.

*Stems* creeping, and striking root. *Leaves* circular, smooth. *Leaf-stalks* smooth, cylindrical. *Fruit-stalks* from the base of the leaf-stalks. *Umbels*, 2 on a fruit-stalk, 1 springing out of the other, each containing from 4 to 6 flowers. *Flowers* reddish white.

*Marsh Pennywort. White Rot.* Marshy grounds. P. June.

The farmers suppose it occasions the rot in sheep. (See *Pinguicula vulgaris.*)

## SANI'CULA. *Umbellules* crowded, forming a kind of head: *florets* of the centre barren: *fruit* set with hooked prickles.

S. Root-leaves simple: florets all sitting. europœ'a.

*Fl. dan.* 283–*Blackw.* 63–*E. bot.* 98–*Walc.*–*Fuchs.* 671–*Trag.* 509–*Riv. pent.* 31. *Sanicula–Dod.* 140. 1–*Ger. em.* 948–*Ger.* 801–*Col. phytob.* 16–*H. ox.* v. 34, *row* 3. 1–*Lob. obs.* 378. 2–*Park.* 532. 1–*Matth.* 1019.

A foot, or half a yard high. *Root-leaves* 5-lobed, segments jagged, paler green and shining underneath. The central barren florets have no style, but in its place a concave glandular nec-

tary filled with honey, similar to what crowns the germen in the fruit-bearing florets. *Bloss.* white.

*Common Sanicle.* Woods and thickets. P. May, June.

## BUPLEU'RUM. *Partial involucr.* largest of 5 leaves; *petals* rolled inwards: *fruit* egg-shaped, bulging, small, not crowned.

rotundifo'lium. B. General involucrum none: leaves perforated by the stem.

*Dicks. h. s.-E. bot.* 99–*Kniph.* 7–*Riv. pent.* 46. *Perfoliata-Ger.* 430. 1–*Matth.* 1156–*Fuchs.* 632–*Trag.* 482–*Blackw.* 95–*H. ox.* ix. 12. 1–*Dod.* 104. 1–*Ger. em.* 536. 1–*Park.* 580. 1–*J. B.* iii. 6. 198. 1.

From a foot to half a yard high. *Leaves* oval, smooth, bluish green. *Flowers* yellowish.

*Common Thoroughwax.* Cornfields. In a calcareous soil. [Marham, Norfolk. Mr. Crowe.—Carlby, between Stamford and Bourn. Mr. Woodward.—Near Amesbury on Salisbury Plains, plentiful.] A. June, July.

tenuis'simum. B. General involucrum of 3 leaves: umbels simple, alternate, of few flowers: leaves strap-spear-shaped: stem prostrate.

*E. bot.* 478–*Fl. dan.* 1090–*Col. ecphr.* 247. 2–*J. B.* 6. 201. 2–*H. ox.* ix. 12, *row* 3, 4.

*Flowers* yellowish.

*Least Thoroughwax.* Meadows and pastures. [Salt ditches, near Lynn Regis. Dr. Smith. Mr. Pitchford.—Maldon, Essex. Boggy ground at the western end of St. Vincent's rocks, near Cook's folly. Dr. Broughton.—Salt water ditches, Wisbeach. Mr. Relhan.—Banks of the Tees, near Stockton, Yorkshire. Mr. Robson.] A. July, Aug.

## ECHINO'PHORA. Lateral florets male, central florets hermaphrodite: *seed* 1, immersed in the involucellum.

spino'sa. E. Little leaves awl-shaped, thorny, very entire.

*Matth.* 490–*Ger.* 427–*Dod.* 705. 2–*Lob. obs.* 408. 2–*Ger. em.* 583. 2–*Park.* 1286. 3.

*Petals* white; or reddish.

*Thorny* or *prickly Samphire. Sea Parsnep.* Sea coast. At Roosebeck Low Furness, Lancash. Ray. where I searched for it, which has been frequently done by a person resident near that

place, but without success. Mr. WOODWARD.—Between Feversham and Sea Salter. BLACKSTONE.—Gerard also says it was found near West Chester, as well as near Sandwich, but it does not appear to have occurred to any modern botanist. Mr. Atkinson lately told me it is not to be found near Roosebeck, but that the Salsola Kali is found there, and that it is apprehended this was sent to Mr. Ray in a dried state by his sister, who used to collect plants for him. But Ray gives this plant on the authority of Mr. Lawson, so that if there be a mistake, it probably originated with the latter. P. July.

## TORDY'LIUM. *Bloss.* radiated, all the florets hermaphrodite: *involucr.* long, undivided; *seeds* round, compressed, flat, with a thick border.

T. Umbels crowded, radiated: leafits spear-shaped, cut-serrated. maxi'mum.

*Jacq. austr.* 142–*Riv. pent.* 1–*Tordylium–Clus.* ii. 201. 1–*Ger. em.* 1021. 4–*Lob. ic.* i. 737.

*Stem* scored, rough with bristly reflected hairs. *Leafits* 7, cut, pubescent, the odd one twice the size of the others. *Fruit-stalk* stiff, straight, much longer than the leaves. *Umbels* few, rigid, rough. *Umbellules* about 9. *Involucrum* 5-leaved, slender, expanding, shorter than the umbel. *Involucellums* 5-leaved, awl-shaped, as long as the umbellule, the 2 inner leafits smaller. *Bloss.* radiate, white, red underneath. Florets all fertile. *Seeds* circular, flatted, hispid; the border thicker, prickly red. LINN. Ray suspects that neither this nor the next species are properly natives, and that they are only found as the outcasts of gardens.

Banks of fields. Under the hedge on the north side of the Parks. *Fl. Oxon.* Found by Mr. Doody about Thistleworth. RAY. A. June.

T. Partial involucrums as long as the flowers: leafits egg-spear-shaped. officina'le.

*Jacq. hort.* 53–*Dod.* 314–*Lob. obs.* 425. 1–*Ger. em.* 1050. 1–*J. B.* iii. *b.* 4. 2–*Park.* 906. 8–*Ger.* 894.

*Stem* nearly smooth. *Lower leaves* with 2 pair of little leaves; *little leaves* hairy, on leaf-stalks, the odd one at the end with 3 lobes; *those of the upper-leaves* spear, or strap-spear-shaped, deeply serrated. *Florets* tinged with purple. *Seeds* large, flat, with broad, raised, notched edges; which last circumstance required that it should be kept distinct from the other English species. These Mr. Hudson has accordingly very properly removed to the genus *Caucalis.* WOODWARD. The T. maximum and officinale are readily to be distinguished by observing, that in the former the

terminating leafit of the stem-leaves is strap-spear-shaped, in the latter short and rather wedge-shaped; and further, that the partial involucrums in the former are longer, in the latter shorter than the florets.

*Small Hartwort. Tordylium apulum.* Jacq.—Cornfields. On the banks of the road to Heddington, about half a mile from Oxford. SHERARD in R. *Syn.*—[Shewn me growing near Oxford by Mr. Newberry, but not on the road to Heddington. Mr. WOODWARD.] A. June.

T. *Anthriscus*, see Caucalis *Anthriscus*.

T. *nodosum*, see Caucalis *nodosa*.

CAU'CALIS. *Bloss.* radiated: florets of the centre male: *involucr.* leafits entire: *petals* bent inwards, notched at the end: *seeds* covered with prickles or bristles.

leptophyl'la. C. Involucrums of 1 leaf, or none: umbel cloven: involucellums of 5 leaves.

*Jacq. hort.* 195.

This is inserted as a native on the authority of the author of *Hort. Kew.*

*Caucalis pumilis.* Jacq.—Cornfields. A. July.

daucoi'des. C. Involucellums extending half way round, strap-shaped: seeds egg-oblong; angles on the back 4, distant, rough with bristles: leaves smooth, hairy on the ribs and at the base.

*Jacq. austr.* 157—*Riv. pent.* 24, *Echinophora—E. bot.* 197—*H. ox.* ix. 14. 6—*Pet.* 27. 8—*J. B.* iii. 80. 1—*Park.* 920. 6.

*Umbel* cloven into 3 or 5. Umbellules sitting, generally 3. *Involucel.* none. *Involucel.* of 3 leaves. *Florets* equal, not radiated, reddish, most of them barren *Seed-prickles* hooked, at some distance from each other, smooth. LINN. *Leaves* more than doubly compound, extremely elegant, finely divided. *Involucel.* of mostly 5 leaves. Mr. WOODWARD. Florets pink coloured. *Seeds* rarely more than 3 or 4 in each umbellule attaining perfection. C. *daucoides* Sp. Pl. *ed.* ii. appears to be a different plant from that of the subsequent works; probably a var. of C. grandiflora. ST. C. *leptophyl.* Huds ed. 1; not C. *leptophylla* of Linn.

*Fine-leaved Bastard Parsley. Small Hensfoot.* Calcareous corn fields and barren spots. [Marham, Norf. Mr. CROWE.

Carlby between Stamford and Bourn. Mr. WOODWARD. Thorp arch, Yorkshire. Mr. AIKIN.] A. May, June.

C. Seeds egg-shaped, ribs on the back several, elevated, prickly: leaves simply winged, serrated. latifo'lia.

*Jacq. hort.* 128–*E. bot.* 198–*Col. ecphr.* 97–*Mill.* 85.–*Garid.* 22, *at p.* 146—*H. ox.* ix. 14. *row* 1, *middle figure.*–*J. B.* iii. *b.* 80. 2–*Pet.* 27. 6–*Park.* 920, *the* 2 *uppermost of the smaller figures at n.* 6. 7.

Whole plant rough with flat prickles. *Little-leaves* spear-shaped. *Umbels* with 3 and 4 spokes. *Umbellules* sitting. *Involucr.* egg-shaped, skinny, as long as the spokes; the *general* one from 3 to 5 leaves; the *partial* of 5. *Florets* equal, white; many of them barren. *Fruit* 5 in each umbellule, rough with prickles; *prickles* very rough with minute reflected prickles. Linn. *Bloss.* tinged with purple; *outer petal* larger than the rest. WOODWARD.

*Broad-leaved Hensfoot.* Corn fields. Crooks Edston, Hampshire. HUDS. [Between Cambridge and Gogmagog Hills. Mr. WOODWARD.] A. July.

C. Involucrum of one leaf, or none: seeds egg-shaped; styles reflected: leaves doubly compound, terminating leafit strap-spear-shaped: stem much branched. *Ait. H. Kew.* arven'sis.

*Jacq. hort.* iii. 16–*Riv. pent.* 33. *C. humilis.*

Involucrum 1 leaf, umbellules crowded; seeds roundish-egg-shaped: little leaves egg-spear-shaped, with winged clefts. HUDS. *Stem* about a foot, and seldom, if ever, more than a cubit high; knots more frequent than in *C. anthriscus*; and less hairy towards the root. *Bloss.* white, with a cast of yellow. Never found in hedges, and mostly in corn fields. RAY. *Branches* numerous, alternate, very much straddling. *Seeds* rough with strong hair. WOODWARD.

*Corn Hensfoot. C. helvetica.* JACQ. and GMELIN. Corn fields in chalky or marly soil. A. July, Aug.

C. Seeds oval, rough on the back, with scattered prickles. Linn.—Involucrum many-leaved: seeds egg-shaped: styles reflected: leaves doubly compound; the terminating leafit strap-spear-shaped. *Ait. H. Kew.* Anthris'cus.

*Fl. dan.* 919–*Jacq. austr.* 261–*Kniph.* 10–*Col. ecphr.* 112–*C. B. pr.* 80–*Ger. em.* 1022. 5–*Park.* 921. 9–*Pet.* 27. 9–*J. B.* iii. *b.* 83. 1–*H. ox.* ix. 14. 8.

*Umbellules* crowded. *Seeds* oblong. Leafits egg-shaped, wing-cleft. Branches upright. Huds. *Leaves* hairy, with about 2 pair of leafits; the terminating leafit very long. *Involucr.* leaves strap-shaped, from 5 to 8, not half the length of the umbel. *Umbel* spokes 8 to 10. *Involucell.* leaves spear-shaped, surrounding, and of the length of the umbellule. *Florets* all fertile.

*Tordylium Anthriscus.* Linn. which see. *Hedge Parsley or Hensfoot.* Hedges. B. Aug.

Horses are extremely fond of it.

scandi'cina. C. Seeds egg-shaped but tapering to a point; with short hooked prickles on the back.

*Curt.-Jacq. austr.* 154-*E. bot.* 818-*Riv. pent.* 35, *Cauc. fol. cerefol-Fl. dan.* 863-*Pet.* 27. 12—*H. ox.* ix. 10. *row* 1. 2-*J. B.* iii. *b.* 182. 1.

*Leaves* triply winged, segments wing-cleft, crowded with white stiff, upright hairs. *Stem,* branches and fruitstalk quite smooth; sheaths of the leaves remarkably woolly. *Involucr.* none. *Involucell.* of 4 or 5 leafits. *Umbels* either sitting, or on fruitstalks; spokes 5 or 6. *Umbellules* spokes 5 to 7. Flowers almost all fertile. Petals white. The prickly fruit induced Scopoli and Haller to consider it as a Caucalis, and as such it is now arranged by Gmelin in the last ed. of syst. veg.

*Scandix Anthriscus.* Linn. Huds. Jacq. Curt. E. bot. Amongst rubbish, and on road sides. [On the beach at Weymouth.] A. May, June.

nodo'sa. C. Umbels lateral, simple, mostly sitting: seeds egg-shaped, outer ones set with bristles, inner ones rough.

*Jacq. austr. app.* 24-*E. bot.* 199-*Ger. em.* 1022. 6-*H. ox.* ix. 14. 10-*Pet.* 27. 11-*J. B.* iii. *b.* 83. 2.

*Leaves* finely divided, with a slight hairiness on each side. *Umbels* opposite to the leaves. Roughness on the inner seeds resembling shagreen. Woodward. In a specimen from Montpelier all the seeds rough with bristles. Stokes. Plant from 6 to 12 inches high. Bristles of the seeds barbed, ending in a claw.

*Knotted Hensfoot. Tordylium nodosum.* Sp. pl. Borders of Cornfields. [Ditches in Somersetshire.] A. June.

DAU'CUS, *Bloss.* somewhat radiated, (generally) all the florets hermaphrodite: leafits of the involucrum divided: *seeds* with membranaceous toothed ridges.

D. Angles of the seeds 4, distant, hispid: leafstalks fibrous underneath: umbel concave when in seed. Caro'ta.

*Kniph.* 5–*Ludw.* 9–*Fl. dan.* 723–*Blackw.* 546–*Woodv.* 161–*Riv. pent.* 28, *Staphylinus*–*Ger.* 873–*Matth.* 748–*Dod.* 679–*Lob. obs.* 416. 2–*Ger. em.* 1028–*Park.* 902. 1–*Fuchs.* 684–*J. B.* iii. *b.* 62–*H. ox.* ix. 13. 2–*Trag.* 440.

Var. 2. Leaves of a dark glossy green, hairy, large, segments deeply cloven. Flowers all white.

Sea shore near Dover. R. Syn. 218. n. 3. [Devon and Cornwall.]

Var. 3. Whole plant very harsh and rough with strong white bristly hairs. Involucr. very long. Flowers with a reddish tinge.

Common about Penzance. Mr. THOMPSON. June.

Var. 4. Leaves light green, hairy, segments slightly cloven. Flowers white, except the central floret which is deep crimson.

Hedge-sides and fallow fields. July.

Var. 5. Umbel proliferous.

*Jacq. hort.* iii. 78.

Flowers white, with an umbellule of crimson florets standing up in the middle of the umbel. Sent from Cornwall by Miss GIDDY.

*Daucus polygamus.* Gouan. Shady places: Aug.

In all these varieties the root is pale yellow, the stem from 2 to 2½ feet high; the segments of the leaves are pointed; the umbels are at first flat, or gently convex, but when in seed concave like a tea cup. The Involucrum composed of about thirteen leafits with deeply winged clefts; the Involucellums of eight or nine leafits, three of which are wing-cleft, the rest entire. The spokes of the umbel about 40, those of the Umbellules about 30. The seeds have 4 longitudinal deeply toothed ridges, like the comb of a cock, with 3 other imperfect ridges between them; the teeth flat, tapering to a point, but not prickly.

*Birds-nest. Common wild Carrot.* B. June—Aug.*

* The wild Carrot has always been marked by Botanists as a biennial plant; but, in our corn-fields, and also when sown in a garden, it is an annual; hence some doubt may arise whether it be, as supposed, the parent stock of the cultivated or garden Carrot, which is always considered as a biennial, though I believe here and there a plant shoots up to seed the first year. The roots of the garden Carrot are white, or yellow, or deep red yellow. The seeds have been sometimes used as diuretics and carminatives; and are highly recommended in calculous complaints.

An

mari'timus. D. Angles of the seeds 4 large and 3 small: umbels convex when in seed.

I first gathered this plant on the western coast of Cornwall, and at my request the Rev. Mr. THOMPSON, of Penzance, paid a particular attention to it during the course of last summer, from whose observations and from the examination of the dried specimens the following circumstances are given.

ROOT a dirty white.

STEM from 1 to 2 feet high, woolly and scored.

LEAVES hairy, or rather woolly; leafits slightly cloven, broad, rounded at the end, succulent, curled.

UMBELS white, convex, not cupped when in seed.

INVOLUCRUM 9 wing-cleft leafits, segments spear-shaped.

INVOLUCELLUM 9 leafits, 6 spear-shaped, 3 wing-cleft.

SEEDS with 4 large, broad, deeply toothed ridges, and 3 smaller intervening ones. The seeds resemble those of the D. muricatus, but the plant differs in other respects.

*Sea-coast Carrot.* Rocks on the S. W. coast. A. July, Aug.

BU'NIUM. *Bloss.* uniform: *umbel* crowded: *styles* bent back, deciduous: *seeds* rather cylindrical, scored, thicker towards the end.

Bulbocas'tanum. B. Involucrum of many leaves: stem with leaves at the base rising from the root: styles deciduous.

*Fl. dan.* 220–*Barr.* 244–*Dod.* 334. 1–*Lob. obs.* 429. 2, *ic.* i. 745. 1–*Ger. em.* 1064. 2–*Bark.* 893–*Ger.* 906. 1–*H. ox.* ix. 2. *row* 2. *fig.* 2*d*, *n.* 1–*Pet.* 25. 9–*J. B.* iii. 6. 30 –*Ger.* 906. 2–*Matth.* 866.

An infusion of them has been found to afford relief in sharp fits of the gravel. Mr. WOODWARD.—Carrots are a grateful and nutritious food for all kinds of cattle, and well worthy of a more general cultivation for the purpose of the farmer. Carriage horses will work upon them nearly as well as upon oats, but if given beyond a certain period, the cattle are apt to make bloody urine.—Crickets are very fond of them, and are easily destroyed by making a paste of powdered arsenic, wheat meal, and scraped carrots, which must be placed near their habitations. A poultice made of the roots has been found to mitigate the pain, and abate the stench of foul and cancerous ulcers.

It is probable this has not been found in England; Ray and Johnson in Ger. em. speak of both species, which are well figured in the latter, but say they have only found one kind.

B. Involucrum from 1 to 3 leaves, deciduous: stem leafless at the base, tapering downwards, zigzag: styles permanent. flexuo'sum.

*Curt.* 273–*Ger. em.* 1064. 1–*Tourn.* 161. 2.

*Root* tuberous. *Stem* smooth, scored, but little branched. *Leaves* doubly winged; segments very slender, and tapering to a point. *Involucrum* seldom of more than 1 or 2 slender leaves, but in most instances altogether wanting, and after examining above 50 plants growing in differing soils both in woods and open pastures, I could never find more than one with any general fence after the blossoms were opened. *Involucellum* mostly shorter than the umbellule, of 3 or 4 very small spear-shaped leaves. *Umbel* spokes 8 to 12. *Umbellule*, spokes about 16. *Styles*, at first close, afterwards straddling, but never bent back. *Flowers* white.

*Bunium Bulbocastanum.* Curt.—*Earth, Kipper, Pig, Hawk, or Jur-nut. Earth Chesnut. Lesser Pignut.* Meadows, pastures, orchards, and woods. P. May, June*

CONIUM. *Involucellum* going half way round, of about 3 leaves: *fruit* egg-shaped, bulging, ribs compressed, waved before the fruit is ripe.

C. Seeds without prickles: stem greatly branched, smooth, spotted. malcula'tum.

*Jacq. austr.* 156–*Curt.* i. 7–*Woodv.* 22–*Riv. pent.* 75, *Cicuta–Kniph.* 11–*Storck–Gent. Mag.* 1762. *p.* 273–*Clus* ii. 200. 2–*Dod.* 461–*Lob. obs.* 422. 1; *ic.* i. 732. 1–*Ger. em.* 1061–*Park.* 933. 1–*H. ox.* ix. 6. *row* 3. 1–*Blackw.* 573. *a.* 6–*Fuchs.* 406–*J. B.* iii. 6. 175. 3–*Trag.* 474–*Matth.* 1098–*Ger.* 903. 1–*Blackw.* 451.

*Stems* and *branches* shining, spotted and streaked with brownish or blackish purple. *Involucell.* of 1 leaf divided into 3 and 4; *segments* at the edges white and membranaceous. *Outer petals* the largest. *Flowers* white.

*Common Hemlock. Kex.*—Hedges, orchards, rubbish, cultivated ground, and dunghills. B. June, July.†

* The roots eaten either raw, boiled, or roasted, are very little inferior to Chesnuts, and would be an agreeable addition to our winter deserts.

† The whole plant is poisonous, and many instances are recorded of its deleterious effects; but modern experience has proved it to be less virulent

SELI'NUM. *Involucr.* reflected: *petals* heart-shaped, equal: seeds small, with 5 membranaceous ridges, the lateral ones the largest.

palus'tre. S. Stem solitary: styles wide spreading after flowering: petals rolled inwards.

*Jacq. austr.* 152–*E. bot.* 229–*Riv. pent. t.* 20, *Thyssel. angustifo.*–*Fl. dan.* 412–*Dod.* 699–*Ger. em.* 1020–*Park.* 928 *and* 904. 6–*H. ox.* ix. 17. 2–*Lob. obs.* 409. 1, *andic.* i. 711. 1–*C. B. pr.* 85.

Whole plant somewhat milky. *Stem* mostly single, hard, deeply scored. The terminating *little-leaves* elongated. *Root* hot in the mouth. LINN. The whole plant when wounded pouring forth a milky juice. *Root* thick, branching, yellowish without, white within. *Stem* 2 or 3 cubits high, deeply furrowed, smooth, as in the whole plant. *Leaves* of a pleasant green, triangular, in the more luxuriant plants upwards of 1½ feet long and as much or more in breadth; the uppermost sitting trebly and quadruply winged, the last leafits wing-cleft; wings with 2 or 3 clefts, varying from strap to oval-spear-shaped, very entire, reddish at the points. *Umbel* large, beautiful; spokes about 30. *Umbellules*, spokes upwards of 40. *Involucr.* permanent; leaves spear-shaped, about 9. *Involucell.* about 12. *Seeds* roundish, blunt, edged, with a kind of border, scored in the centre. *Petals* blunt, with 2 slight lobes, white; before flowering reddish on the outside. WOODWARD.

virulent than was formerly imagined, and though it may not cure Cancers it is certainly a very useful medicine when properly prepared. In the first and second editions of this work, very particular directions were given for making the extract, but such is the uncertainty of it, owing to the difficulty of preparing it, that I have now for some years laid it aside, and prescribed only the powder of the dried leaves. Let the leaves be gathered about the end of June, when the plant is in flower. Pick off the little-leaves and throw away the leaf-stalks. Dry these selected little leaves in a hot sun, or on a tin dripping-pan or pewter dish before a fire. Preserve hemin bags made of strong brown paper, or powder them, and keep the powder in glass vials, in a drawer, or something that will exclude the light, for the light soon dissipates the beautiful green colour, and with its colour, the medicine loses its efficacy. From 15 to 25 grains of this powder may be taken twice or thrice a-day. I have found it particularly useful in chronic rheumatisms, and also in many of those diseases which are usually supposed to arise from acrimony. The nature of this book does not allow of minute details of the virtues of plants, but I can assure the medical practitioner that this is well worth his attention.—Dr. Butter says, obstinate cases of gonorrhœa virulenta may be safely cured by doses of 10 grains of the inspissated juice; a mode of treatment communicated to him by Baron Storck.—Mr. Whately, surgeon in London, bears ample testimony to the beneficial effects of the powder given in doses of only 4 or 5 grains twice a-day, for promoting a disposition to heal in obstinate ulcers on the legs; and its tendency to heal ulcerations of the lungs, after the inflammatory symptoms have been abated, must be generally allowed.

*Selinum sylvestre.* Jacq. austr. *Marsh Milkweed. Wild Parsley. Wild Milky Parsley.* [Found in 1779 or 1780 by Mr. Searle, at Cannon Winder, near Flookburgh, Lancashire; in the ditches near the sand side not very plentiful; and I have since found it round the sides of Ayside Tarn, 3 miles north of Cartmel. Mr. HALL. Brought to me and Mr. Crowe, when in Lancashire in 1781, by the Rev. Mr. Jackson. Mr. WOODWARD. In Alder Swamps, near Yarmouth. Mr. WIGG. In great plenty in low wet moors with Iris Pseudacorus, near Whitgift, Yorkshire, 4 miles from the confluence of the Ouse and Trent. Mr. WOOD.] P. June, July.

## ATHAMAN'TA. *Petals* bent inwards, notched at the end: *fruit* egg-oblong, scored.

A. Leaves doubly-winged, flat: umbels hemispherical: seeds hairy. Libano'tis.

*Jacq. austr.* 392 *and* 392*–*Relh. at p.* 113–*E. bot.* 138–*J. B.* iii. *b.* 105–*Pluk.* 173. 1–*C. B. pr.* 77. 1.

*Terminating umbel* sometimes proliferous, with the spokes 2 inches long. RELH. The first pair of wings (in the lower leaves. ST.) next the leaf-stalk placed cross-wise. *Lower leaves* almost trebly winged, the wings being deeply wing-cleft. WOODWARD. *Flowers* white. Germens and styles purplish.

*A. Libanotis. Huds. ed.* i. *A. Oreoselinum. Huds. ed.* ii. *Mountain Spignel or Stone Parsley.*—Chalk pit, close, Hinton, Cambridgsh. Mr. RELHAN.—Gogmagog Hills, Cambridgshire. RAY.

A. *Libanotis* only has been discovered in Great Britain, which is the plant found by Ray on the Gogmagog Hills, and which Mr. Relhan first clearly ascertained to be *A. Libanotis.* Mr. WOODWARD. P. Aug. Sept.

## PEUCED'ANUM. *Involucrums* very short: *fruit* elliptical, slightly ridged, compressed and bordered.

P. Leaves 5 times divided into 3; thread-strap-shaped. officina'le.

*Riv. pent.* 11. *Peuced.–Fuchs.* 599–*J. B.* iii. 6. 36. 1–*Dod.* 317–*Lob. obs.* 453, *and ic.* i. 781–*Ger. em.* 1054. 1–*Park.* 880. 2–*Ger.* 896. 1–*Trag.* 881.

*Petals* yellowish.

*Common Sulphurwort. Hogs Fennel. Harestrong.* Salt marshes. Shoreham. Sussex. Walton, near Harwick, Essex;

and near Feversham. R. *Syn.*—About Yarmouth and Clay, Norfolk. Huds. P. June, July.*

mi'nus. P. Leaves winged; leafits wing-cleft; segments strap-shaped, opposite: stem very much branched, spreading. Huds. ed. I. Linn.

*Pimpinella dioica*, which see.

Silau's. P. Leafits wing-cleft; segments opposite: Involucrum of 2 leaves. Linn.

*Jacq. austr.* 15–*Crantz. umb.* 6. *and austr.* iii. 6–*Riv. pent.* 58. *Seseli prat.*–*Ger.* 1047. 1–*Park.* 904. 4–*J. B.* iii. 2. 171–*Ger.* 877–*Dod.* 310. 2–*Lob. obs.* 425. 4; *and ic.* i. 738. 1–*Ger. em.* 1048. 2–*Park.* 904. 3.

*Lower-leaves* trebly compound; the *little-leaves* cloven into 2 or 3 spear-shaped, segments. *Involucr.* 1 or 2 little leaves. *Involucell.* 12 spear-shaped leaves, deep purple or black at the ends. *Umbel* of about 7 *spokes*. *Umbellules* 12 to 20, and upwards. All the *florets* generally fertile, but some of the central ones sometimes barren. *Petals* pointed, yellow. *Germen* crowned with a glandular yellow receptacle, turning to a deep red as the seeds ripen.

*Meadow Saxifrage, or Sulphurwort.* Moistish meadows and pastures. P. Aug.

CRITH'MUM. *Florets* equal: *fruit* oval compressed.

marit'imum C. Leafits spear-shaped, fleshy.

*Jacq. hort.* ii. 187–*E. bot.* 819–*Kniph.* 8–*Dod.* 705. 1–*Lob. obs.* 213. 2; *and ic.* i. 392. 2–*Ger. em.* 533. 1–*J. B.* iii. 2. 194–*H. ox.* ix. 7. *row* 1. 1–*Lon.* 1. 257–*Matth.* 489–*Ger.* 427. 1.

*Leafits* strap-spear-shaped. Flowers white.

*Rock Samphire.* Sea coast. [On the chalk cliffs near the Needles in the Isle of Wight. St. On all the cliffs on the Cornish coast. Mr. Watt. On the rocks at Dunnerholme, and above Cartmel Wells, on the sea shore, growing out of the crevices of the rocks and difficult to be got at. Mr. Atkinson.]

* The roots have a strong fetid smell, and an acrid, bitterish, unctuous taste. Wounded in the spring they yield a considerable quantity of yellow juice, which dries into a gummy resin and retains the strong scent of the root. Its virtues have not yet been ascertained with precision.

Fields about Port Gwylan, Caernarvonshire, covered with it. PENN. *Wales.* ii. 200. P. Aug.*

HERACLE'UM. *Involucr.* shedding: *bloss.* irregular; petals bent inwards, notched at the end: *seeds* compressed, leaf-like, smooth, encompassed by a narrow membranaceous border.

H. Leafits wing-cleft, even: flowers radiated. Sphondylium.

*Kniph.* 11–*Blackw.* 540–*Riv. pent.* 4. *Sphond–H. ox.* ix. 16. *row* 1. 1. *f.* 2–*Dod.* 307–*Leb. obs.* 401. 2; *ic.* i. 701. 2–*Ger. em.* 1009–*Park.* 953–*Pet.* 24. 1–*Park.* 954. 3–*Matth.* 791–*Fuchs.* 53–*J. B.* iii. 2. 160–*Trag.* 437.

*Leaf-stalks* spreading out at the base into a kind of bags, scored, membranaceous, woolly at the edges, and in its younger state sheathing and inclosing the fruit-stalks and umbels. *Stem*-leaves winged, hairy; *leafits* about 2 pair, jagged, and indented, the odd one cloven into 3. *Outer* florets radiated, *central* ones nearly equal. *Seeds* with 3 ridges on each side. *Flowers* white.

*Cow Parsnep. Madnep. Hogweed. Parsnep Hogweed.* Hedges, meadows, pastures. B. July.†

Var. 2. *narrow-leaved.* Little-leaves spear-shaped. ST.

*Jacq. austr.* 174–*Pluk.* 63. 3–*Pet.* 24. 2–*Park.* 954. 2.

I have found the *root-leaves* of this and of *H. Sphondyl.* rising from the same root. *Leaves* winged; *wings* with mostly 3 lobes; *lower-lobes* long, and standing nearly at right angles give the cross-like appearance; *lobes* strap-spear-shaped, deeply and doubly serrated. Mr. WOODWARD.

* Poor people on the sea-coast eat it as a pot-herb; and gather it for sale, it being much used as a pickle.—Sheep and Cows eagerly feed, and are said to grow fat, upon it. PENN. *ib.*

† In Poland and Lithuania, the poor people prepare a liquor from the leaves and seeds; which undergoes a fermentation, and is drank instead of ale.—The stalks, when peeled, are eaten by the Kamschatkians.—The Russians take the leaf-stalks of the root-leaves, peel them, and hang them in the sun to dry a little; then they tie them in little bundles, and hang them up again till they become yellow: in this state they put them into bags, and a mealy substance like sugar forms upon the surface of them. This they shake off, and treat their guests with it as a great delicacy. They likewise distil an ardent spirit from it. *Gmelin sibir.* i. *p.* 214. Attempts have been made to manufacture sugar from this plant which the Kamschatkians call Ratsch (sweet-herb,) but forty pounds of the dried stalks only yielded a quarter of a pound of the powder sugar. The peelings of the stalks are acrid.—The leaves are a favourite food of Rabbits, Hogs and Asses. Cows, Goats, and Sheep eat them; but Horses are not fond of them.

Hedges. About Harefield. BLACKST. [Between Okeover and Ashbourne. ST. Berkhamstead, Hertfordshire. Mr. WOODWARD. In the woods and other places about Hayes, near Oswestry, as common as the first sort. Seeds gathered Oct. 4, 1770, were sown Jan. 2, 1771, and produced plants which flowered in 1772, and they or many of their progeny now occupy the same spot in Jan. 1789. It seems to be more than a variety. Mr. WARING.]
B. July.

## LIGUSTICUM. *Bloss.* equal; petals rolled inwards, undivided: *fruit* egg-oblong, tapering at each end, 5 ridges on each seed.

Sco'ticum. L. Leaves doubly three-fold.

*Pluk.* 96. 2–*Pet.* 26. 11–*Penn. tour.* ii. 24. *at p.* 205–*Herm. par.* 227–*Fl. dan.* 207.

*Leaves* glossy underneath. LINN. *Little-leaves* oblong-wedge-shaped, entire below, above irregularly serrated, and sometimes deeply cut. Mr. WOODWARD.

*Scottish Lovage, or Sea Parsley.* Rocks and cliffs by the sea-side in Scotland and the Western Isles. Near Queen's Ferry. [Near Kinghorn, Scotland. Mr. WHATELY. At Weams castle Fife-shire, and on the coast between Arbroath and the Red-head, Angus-shire. Mr. BROWN. Cramond Island, 6 miles from Edinburgh. Dr. HOPE.] B. July.*

Cornubien'se. L. Root leaves doubly compound, cut; stem leaves in threes, spear-shaped, entire: furrows of the seeds indistinct.

*E. bot.* 682–*Smith. ic. pict. fasc.* ii.–*Ray* 8. *at p.* 209–*Pet.* 26. 9.

*Cornwall Saxifrage. Cornish Lovage.* Cornwall. B. July.

Ever since the time of Ray this plant seems to have been lost, or at least to have eluded the researches of our modern botanists, and for a long time only one specimen was known to exist; and some concluded that the species was extinct; but a few years ago, Mr. Pennington discovered it in great plenty in a field near Bodmin, which had then been ploughed, after having lain fallow from time immemorial. Being at Bodmin in June 1793, I applied to Mr. Gilbert, the proprietor of the land, who very obligingly sent a person to conduct me to the field in which Mr. Pennington had re-discovered the plant. This field is more than a mile North of Bodmin; the furze is again growing upon it, but

* It is much valued in the Isle of Sky. The root is reckoned a good carminative, and an infusion of the leaves a good purge for calves. It is besides used as food, either as a sallad, or boiled as greens. *Penn. tour.* 1772. p. 310. Horses, sheep, and goats eat it. Cows refuse it.

not a single plant of the Ligusticum was to be found. Dr. Hall favoured me with his company on this occasion, and we searched the surrounding fields and hedge rows to no purpose. At length, in a field about half a mile further from Bodmin, on ground sloping into a valley facing to the west, and nearly at the bottom of the slope, we discovered a few plants amongst the furze. It therefore appears probable that it will soon be lost again, owing to cattle being so fond of it as to eat it down wherever they can get at it, for the few plants we found were so protected by thorns and briars as to be inaccessible to cattle. Mr. Stackhouse informs me that he has since found it plentifully at Hungerill, in the parish of Cardynham, near Bodmin, on the sloping side of a barren hill. I do not find (continues Mr. Stackhouse) the radical leaves in threes, as represented in Ray's Synopsis, but rather twice ternate, as expressed in Smith's Icones pictæ, fasc. ii. I think the circumstance of having leaves of two distinct shapes is not that the one are radical and the other not, for both arise from the crown of the root. The spindle-shaped root is constant and very distinctive. In Dr. Smith's figure, the left hand leaf in the plate admirably describes the difference of the radical leaf from the others, as it consits in the form of the lobes, and the smaller number of segments, not in a trifoliate-leaf as in Ray's figure. From the woody quality of the root I suspect it to be perennial.

## ANGE'LICA. *Bloss.* equal, petals bent inwards: *styles* reflected: *fruit* roundish.

A. Leaves winged; leafits unequally serrated, the odd one at the end 3-lobed. Archange'lica.

*Fuchs.* 124–*Trag.* 421–*Lob. ic.* 698. 2, *and obs.* 399–*Dod.* 318. 1–*Ger. em.* 999. 1–*Matth.* 814. 2–*Tabern.* 230. 1–*H. ox.* ix. 3, *row* 2. 1–*Ger.* 846. 1.

The serratures on the leafits in the A. sylvestris are fine, regular, and the leafits otherwise entire, but in this species the leafits are broader and with more of a lopped appearance at the base, the serratures much larger, very irregular, and some of them cleft into 3 segments. In some specimens the Involucellums are much longer than the Umbellules.

[Broadmoore, about 7 miles N. W. from Birmingham.]

P. Sept.

In a cultivated state this is supposed to be the *Garden Angelica* which is used in some distilled waters, and candied by the Confectioners. It is figured in *Blackw.* 496, *Kniph.* 4, *and Trag.* 422; also wretchedly done in *Fl. dan.* 206.

A. Leafits equal, egg-spear-shaped, serrated. sylves'tris.

*Ludw.* 178, 179–*Fuchs.* 125–*Tabern.* 230. 2–*Trag.* 422–*Lob. ic.* 699. 1–*J. B.* iii. 2. 144–*Woodv.* 265–*Dod.* 318. 2–*Ger. em.* 999. 2–*Ger.* 846. 2–*Matth.* 814. 3–*H. ox.* ix. 3. *row* 2. 2–*Park.* 940. 2–*Lon.* i. 227. 2–*Riv.* 17.

*Spokes* to 40. *Fruit-stalks* to 80. RELH. *Involucrum* none, or sometimes, though rarely, of 1 or 2 very small, slender leaves. *Involucell.* permanent; *leaves* 5 to 12, awl-shaped, unequal. *Bloss.* white, more or less tinged with purplish red. *Seeds*, border membranaceous, with 3 ridges on the outer side,

*Wild Angelica.* Marshy woods and hedges. P. June, July.*

SI'UM. *Involucrum* many-leaved: *petals* heart-shaped: *styles* bent back: *fruit* roundish.

latifo'lium. S. Leaves winged: leafits egg-spear-shaped, regularly and sharply serrated; the terminating leafit 3-cleft: umbels terminating.

*Jacq. austr.* 66–*E. bot.* 204—*Fl. dan.* 246–*Riv. pent.* 78. *Sium–Dod.* 589–*Lob. obs.* 113. 1; *ic.* i. 208. 1. 2–*Ger. em.* 256. 2–*H. ox.* ix. 5. 2–*Pet.* 26. 2–*Ger.* 200. 1–*Ger. em.* 256. 1–*Park.* 1240. 1–*J. B.* iii. 2. 175. 1–*Pet.* 26. 1.

*Leafits* of the *root-leaves* in marshy places sometimes deeply cut, and the segments of such as are under water strap-shaped. HUDS. *Involucr.* leafits strap-spear-shaped, toothed. WOODW. A large strong plant 5 or 6 feet high. Flowers whitish.

*Broad-leaved Skerrett. Great Water Parsnep.* Rivers and fens. [Moors near Pitchcroft, Worcester. Dr. THOMSON. Norfolk, frequent. Mr. WOODWARD. Isle of Ely. ST. Pool in Nottingham Park. Dr. ARNOLD.] P. July, Aug.†

angustifo'lium. S. Leaves winged, leafits irregularly jagged and serrated: involucrum wing-cleft: umbels on fruit-stalks, axillary.

*Jacq. austr.* 67–*E. bot.* 139–*Riv. pent.* 79, *Sium minus–Fl. dan.* 247–*Park.* 1241. 2.

Involucrum, *leafits* either entire, or serrated, or else wing-cleft. *Huds.* Flowers white. This and the S. latifolium are readily distinguishable by the specific characters, but the trivial

* It is warm, acrid, bitter, and aromatic; but the species cultivated in our gardens possessing these properties in a higher degree, this has been long neglected. *Papilio machaon* feeds upon it. Cows, goats, and swine eat it. Horses refuse it. LINN. A horse eat the flowering stem. ST.

† Horses and swine eat it. Sheep are not fond of it. The roots are noxious to cattle.

names of *broad* and *narrow*-leaved are ill appropriated because tending to mislead, for neither the leaves nor leafits of the latter are narrower than those of the former, and if there is a difference it is generally the reverse of what the trivial names would lead us to expect.

*Upright Water Parsnep. Narrow-leaved Skerret.* Ditches and rivulets. [Norfolk. Mr. Woodward. Kingston Pool, near Stafford. King's Park, and meadows and ditches near Edinburgh. Mr. Brown.] P. July—Sept.

It certainly possesses active properties which ought to be enquired into.

S. Leaves winged; leafits tooth-serrated: umbels lateral, opposite the leaves, sitting or on fruit-stalks. nodiflo'rum.

*E. bot.* 639–*Woodv.* 182–*Tourn.* 162–*H. ox.* ix. 5. 3–*Pet.* 26. 3.

Stem and branches generally trailing or floating on the water, and striking root at the joints. *Involucr.* deciduous. *Involucell.* of 5, 6 or 7 spear-shaped reflected leaves. Flowers white.

*Creeping Water Parsnep*, or *Skerret.* In rivers and ditches. P. July, Aug.*

S. Stem creeping: leafits roundish, toothed and angular. re'pens.

*Jacq. austr.* 260.

[Found by Dr. J. Sibthorp in moist ground called Cowley Bottom, near Oxford. On the bank of a pond at Fisherrow, 5 miles from Edinburgh, and in abundance on the moist parts of Guillon Links, East Lothian. Dr. Hope.] P. June, July.

Smaller in all its parts than *S. nodiflorum. Leafits*, the terminating one deeply divided into 3 lobes. Dr. J. Sibthorp. *Umbels* on fruit-stalks, opposite the leaves. *Leafits* roundish egg-shaped, unequally serrated, serratures bluntish, the lower edge also generally deeply cut in one place. Dr. Stokes.

SI'SON. *Involucrum* about 4 leaves: *fruit* egg-shaped, scored: *styles* bent back.

S. Leaves winged: umbels upright. Amo'num.

*Jacq. hort.* iii. 17–*Blackw.* 442–*J. B.* iii. 2. 107–*Fuchs.* 655–*Trag.* 461–*Dod.* 697. 1–*Ger. em.* 1016. 1–*Park.* 914. 1–*H. ox.* ix. 5. 7.

* A young lady 6 years old was cured of an obstinate cutaneous disease, by taking 3 large spoonfuls of the juice twice a day; and I have repeatedly given to adults 3 or 4 ounces every morning in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the doses I have given it, it neither affects the head, the stomach, nor the bowels.

*Stem* cylindrical, upright, scored, smooth. *Leaves* winged; *leafits* egg-shaped, cut, serrated, but the uppermost more finely divided. *Umbel* of 4 spokes, the 4th in the centre. *Involucr.* of 3 leaves. *Involucell.* of 5 leaves, very small. LINN. *Root-leaves* of several pair of *little-leaves*, the terminating one cloven into 3. *Stem-leaves* from 2 to 3 pair; *upper* leaves of 2 pair, deeply and irregularly cut, the lowermost pair winged, and much longer. *Umbels* nodding before flowering. WOODWARD. *Little-leaves* with generally a lobe-like gash on each side below. *Umbels* mostly terminating. Flowers white.

*Bastard Stone Parsley. Hedge Stonewort.* Moist woods and hedges. P. August, Sept.

se'getum. S. Leaves winged: umbels nodding.

*Jacq. hort.* 134–*E. bot.* 228–*Ger. em.* 1018–*Park.* 932–*H. ox.* ix. 5. *row* 2. 6.

*All the leaves* with numerous pairs of little-leaves. *Umbel* spokes 3 to 5, very unequal. *Umbellules* spokes 6 or 7, very unequal. WOODWARD. *Little-leaves* egg-shaped, deeply cut and serrated; serratures very finely pointed. STOKES. Petals very minute, white. *Anthers* reddish.

*Corn Parsley*, or *Stonewort.* Cornfields and hedge sides in chalk and clay. [Binham, Norfolk. Mr. CROWE.]

B. LINN.—A. HUDS.—July.

inunda'tum. S. Creeping: leaves under water hair-like, those above winged: umbels of 2 spokes.

*Dicks. h. s.–E. bot.* 227–*Fl. dan.* 89–*H. ox.* ix. 5. 5–*Pet.* 26. 4–*Pluk.* 61. 3.

The smallest of the umbelliferous plants that I am hitherto acquainted with. LINN. *Involucrum* none. Umbellule sometimes sitting. WOODWARD. Flowers white.

*Least Water Parsnep. Water Stonewort.* In ditches, pools, and ground subject to be overflowed. [Esthwaite lake and Rusland-Moss in Furness Fells. Mr. JACKSON. Salesmore, near Manchester. Mr. ROBSON. Near Bungay, Suffolk. Mr. WOODWARD. Sides of rivulets on Malvern Chace, Worcestershire. Mr. BALLARD. Marazion Marsh, Cornwall.] B. June.

verticilla'tum S. Leafits in whirls, hair-like.

*E. bot.* 395–*Lightf.* 35. *at p.* 1096–*Moris. umb. t.* 6–*H. ox.* ix. 7. 10.

*Leaves*, each of the *whirls* consists of 2 opposite little-leaves, deeply divided into hair-like segments. *Umbels*, rays 8 to 10. LIGHTF.

*Whirled Honewort.* Meadows and pastures. On the Western side of Wales, and in Scotland. P. Aug.

ŒNAN'THE. *Florets* of different shapes, those in the centre sitting, barren: *fruit* with a cork-like coat, oblong, scored; crowned by the styles and the calyx, which are permanent.

O. Sending forth suckers: stem-leaves winged; thread-shaped; hollow. fistulo'sa.

*E. bot.* 363–*Kniph.* 5–*Riv. pent.* 36. *Œnanthe*–*Fl. dan.* 846–*Lob. ic.* i. 73. 1. 2–*Ger. em.* 1060–*Park.* 1233. 1–*Pet.* 25. 5–*J. B.* iii. 2. 192–*Ger.* 902. 5.

From 12 to 18 inches high. *Involucrum* sometimes none, sometimes of one, and sometimes of 5 leaves. *Umbel* spokes from 2 to 7. The first umbel is cloven into 3 parts; the succeeding ones into many; so that the plant changes its appearance considerably in the course of the summer. *Petals* white.

*Water Dropwort.* Ponds and ditches, frequent. [Marsh at Fresh water Gate, in the Isle of Wight, May, June.] P. July.*

Var. 2. *pucedanifolia.* This is a small var. mentioned by RAY, and figured in *E. bot.* 348. *where it is made a distinct species.*–*Dod.* 590–*Lob. obs.* 421, *and ic.* i. 732. 1–*Park.* 1233. 2–*H. ox.* ix. 7. 8–*Pet.* 25. 6–*Cam. epit.* 611, *right hand figure.*

Mr. Afzelius thinks that the var. 1. is the true O. *fistulosa* of LINN. and that the other is the *O. pucedanifolia* of Pollich i. page 289, tab. 3. The plants I got in the Isle of Wight correspond with the fig. of Pollich, and the leafits are 3 or 4 inches long, but the other kind has leafits rarely more than half or ¼ inch long. The bulbs of the roots seem to vary their situation as the plant grows in more or less water, in a thin or a stiff mud, or in a garden soil, so that their being placed in a bundle at the bottom of the stem, or on the fibres of the roots at a greater or lesser distance, are circumstances too variable to establish a character.

O. All the leaves many-cleft, blunt, nearly equal. croca'ta.

*Phil. trans. abr.* x. 23, *at p.* 772–*Blackw.* 575–*Gent. Mag.* 1747. xvii. *at p.* 322–*Jacq. hort.* iii. 55–*Woodv.* 267–*Pet.*

* Cows and horses refuse it, though from experiments made on purpose, it does not appear to be in the least degree noxious to the former.

25. 7–*H. ox.* ix. 7, *row* 2. 2.–*Lob. adv.* 326. 2–*ic* i. 730. 2–*Ger. em.* 1059. 4–*Park.* 894. 6–*J. B.* iii. 2. 193. 2.

*Leaves*, some winged; but more doubly winged. The *little leaves* wedge-shaped, smooth, streaked, jagged. *Petals* white, acute, bent inwards. *Involucrum* wanting. LINN. It has an involucrum of 5 strap-shaped leafits, about half the length of the shorter spokes, but it very readily falls off. Mr. GOUGH *Stem* and *leaves* quite hairless. *Umbellules* nearly globular. *General blossom* not very unequal.

*Dead Tongue. Hemlock Dropwort.* Watery places, banks of rivers and ditches. [Meadows, near Hanley Hall, Worcestersh. Mr. BALLARD.—Between Bishops Aukland and Wolsingham, and near Stockton. Mr. ROBSON.—Bent Bogs, near Manchester race ground. Mr. CALEY.] P. June, July.*

pimpinelloi'des. O. Leafits of the root-leaves wedge-shaped, cloven; those of the stem entire, strap-shaped, very long, undivided.

*Jacq. austr.* 394–*E. bot.* 347–*Matth.* 867–*Ger.* 901–*Kniph.* 8–*H. ox.* ix. 7. 3–*J. B.* iii. 2. 191. 1–*Pet.* ii. 25. 8.

*Stem* angular, 6 inches high. *Root-leaves* like those of parsley, but thicker, doubly winged, broad; *leafits* cut. *Stem-leaves* less compound, scarcely doubly winged; *leafits* strap-shaped, channelled, very long. *Umbels* unequal. *Involucrums general* and *partial*, all bristle-shaped. *Bloss.* white, somewhat radiated. LINN. Outer rays very long, and the florets barren. WOODW. *Cal.* teeth unequal. *Styles* upright.

*Parsley Dropwort.* Slow streams, ponds, and ditches. Marshes, near Yarmouth. Mr. WOODWARD.—North side of Bredon Hill, Worcestershire. NASH. P. July, Aug.

PHELLAN'DRIUM. Central florets smallest: *fruit* egg-shaped, smooth; crowned with the pistil and the calyx.

aquat'icum. P. Ramifications of the leaves straddling.

* The whole of this plant is poisonous; and Dr. Pulteney remarks, that the root is the most virulent of all the vegetable poisons that Great Britain produces. Many instances of its fatal effects are recorded; for which see *Phil. Trans.* ib. and vol. i. p. 856; *Gent. Mag.* July 1747, March 1755, and Sept. 1758.—An infusion of the leaves, or 3 tea spoonfuls of the juice of the root taken every morning, effected a cure in a very obstinate cutaneous disease; but not without occasioning very great disturbances in the constitution. *Phil. trans.* lxii. p. 469. Mr. Gough informs me, that the country people in Westmoreland apply a poultice of the herb to the ulcer which forms in the fore part of the cleft of the hoof in horned cattle, and is called the foul.—Sheep eat it. Cows and horses refuse it.

*E. bot.* 684–*Fl. dan.* 1154–*Riv. pent.* 65, *Phellandr.*–*Woodv.* 266–*Blackw.* 570–*Dod.* 591–*Lob. obs.* 424. 1, *and ic.* i. 735. 1–*Ger. em.* 1063–*Park.* 933. 6–*Pet.* 28. 4–*H. ox.* ix. 7–*row* 1. 7–*Ger.* 905.

*Leaves* under the surface of the water long and hair-like. WOODWARD. *Stem* very thick. *Petals* white.

*Water Hemlock*, or *Horsebane*. Rivers, ditches, and pools. [Clifton, near Severn Stoke, Worcestershire. Mr. BALLARD.—Ditches near Darlington. Mr. ROBSON.—In a pit at the farm yard 3 miles on the Stretford road from Manchester. Mr. CALEY.] B. June, July.*

Var. 2. Fine-leaved.

Grows in running streams. The leaves are divided like those of the Ranunculus aquatilis in the same situations. Sometimes, though rarely, when the plant grows in an angle out of the rapid course of the stream, it produces its flowers. RELHAN. Ray mentions it as growing between Woodstock and Blenheim, near the bridge.

## CICU'TA. *Fruit* nearly egg-shaped; ribbed.

C. Umbels opposite the leaves: leaf-stalks bordered, blunt. viro'sa.

*E. bot.* 479–*Phil. trans. abr.* x. 23. *at p.* 772–*Woodv.* 268–*Fl. dan.* 208–*Blackw.* 574, *a. b. c.*–*Gunner.* 2–*Riv. pent.* 77. *Cicutaria*–*Dod.* 589. 3–*Lob. obs.* 105. 2, *and ic.* i. 208. 2–*Ger. em.* 256. 4–*Park.* 1241. 3–*J. B.* iii. 2. 175. 2–*Pet.* 28. 1–*H. ox.* ix. 5. 4.

*Leaves* winged; *leaflits* spear-shaped, in threes, serratures white at the point. *Umbel* expanding, red at the base. *Involucellum* of several leaves, bristle-shaped, short. *Styles* upright, white; in the fruit straddling. *Summits* simple. *Fruit* compressed, even, lopped, opening transversely. LINN. *Stem* about 4 feet high, reddish towards the bottom. *Leaves*, serratures sometimes brown. *Fruit-stalks* sheathed at the base by the leaf-stalks. *Receptacle of the spokes* reddish. *Leaves* with about 7

* The seeds are recommended in intermittents, and are said to be diuretic, antiseptic, and expectorant. Dose from 1 to 3 drams daily. Dr. LANGE.—The leaves are sometimes added to discutient cataplasms.—It is generally esteemed a fatal poison to horses, occasioning them to become paralytic; but this effect is owing to an insect, *(Curculio paraplecticus)* which generally inhabits within the stems. The usual antidote is pig dung.—In the winter the roots and stem, dissected by the influence of the weather, afford a very curious skeleton or net work. Horses, sheep, and goats eat it. Swine are not fond of it. Cows refuse it. *Chrysomela Phellandria*, and the *Gilt Leptura* are found upon the roofs, and the *Curculio paraplecticus* within the stems.

pair of *little-leaves*, which are variously divided and indented. *Petals* yellowish pale green.

*Long-leaved Water Hemlock. Water Cowbane.* Sides of pools and rivers. [Pond two miles from Northwich on the side of the road to Chester; and in Nottingham Park. Mr. Wood. —Near Norwich. Mr. Pitchford.—Near Yarmouth. Mr. Woodward.—Kingston Pool, near Stafford. Sr.—Lochs of Forfar and Restenet. Mr. Brown.—Mr. Slaney's pool dam, Hatton, Shropshire.] P. July, Aug.*

ÆTHU'SA. *Involucellums* reaching half way round, 3-leaved, bent downwards; *fruit* nearly globular, deeply furrowed.

**Cyna'pium.** Æ. All the leaves alike: fruit nearly globular.

*Curt.–Kniph.* 12–*Riv. pent.* 76, *Cynapium–Ger. em.* 1061. 1–*Park.* 933. 2–*Pet.* 28. 3–*Blackw.* 517–*H. ox.* ix. 7. *n.* 2, *fig.* 1*st.*

From 1½ to 2 feet high, branched. *Leaves* doubly winged, smooth, glossy dark green; leafits divided into 3 segments, which are again subdivided into 3 or 5. *Umbel* spokes often 18 or more. *Involucell.* 3 very long and slender leafits, pointing downwards. *Flowers* whitish.

*Fool's Parsley*, or *Ciceley. Lesser Hemlock.* Cornfields and kitchen gardens. A. Aug. Sept.†

**Me'um.** Æ. All the leaves divided into many bristle-shaped segments: involucrum 1 leaf: fruit egg-oblong, tapering at each end.

*Dicks. h. s.–Ludw.* 66–*Jacq. austr.* 303–*Riv. pent.* 63, *Meum–Clus.* ii. 198. 2–*Dod.* 305–*Lob. obs.* 449. 2, *and ic.* i. 777. 1–*Ger. em.* 1052. 1–*Park.* 888. 1–*H. ox.* ix. 2, *row*

* This is one of the rankest of our vegetable poisons. Numerous instances are recorded of its fatality to the human species in a treatise upon it by *Wipfer* and *Haller's hist. helv. n.* 781. See also an account of its deleterious effects in the *Phil. Trans. abr.* x. Early in the spring, when it grows in the water, cows often eat it, and are killed by it; but as the summer advances, and its scent becomes stronger, they carefully avoid it. Though a certain and fatal poison to cows, goats devour it greedily and with impunity.—Horses and sheep eat it with safety.

† This plant, from its resemblance to common parsley, has sometimes been mistaken for it, and when eaten it occasions sickness. If the curled-leaved parsley only was cultivated in our gardens, no such mistakes would happen. Cows, horses, sheep, goats and swine eat it. It is noxious to geese.

1, *fig.* 2–*Blackw.* 525–*Matth.* 24–*Ger.* 895–*Tourn.* 165–*Fuchs.* 231–*J. B.* iii. 2. 11–*Trag.* 445–*Kniph.* 4.

*Involucr.* none, or but rarely, of 1 leaf. *Involucel.* from the side as in this genus. *Petals* white. LINN.

*Athamanta Meum.* Sp. pl. *Ligusticum Meum.* CRANTZ.—*Seseli Meum.* SCOP.—*Meum athamanticum.* JACQ.—*Spignel. Spicknel. Meu. Bald,* or *Bawd Money. Spignel Ciceley.*—Mountainous pastures in the northern counties. Near Dolgehle, Merionethshire. In a field by the 4th milestone, leading from Kendal to Appleby, but not frequent in Westmoreland. Mr. GOUGH. In Conistone, Furness Fells. Mr. JACKSON. P. May.*

CORIAN'DRUM, *Blossom* radiated; petals bent inwards, notched at the end: *involucrum* 1 leaf: *involucel.* reaching half way round: *fruit* globular, smooth.

C. Fruit globular. sati'vum.

*Woodv.* 181–*E. bot.* 67–*Kniph.* 10–*Ludw.* 37–*Riv. pent.* 70, *Coriandrum*–*Blackw.* 176–*Fuchs.* 345–*J. B.* iii. 2. 89–*Dod.* 302. 1 *and* 2–*Lob. obs.* 403, *and ic.* i. 705. 2–*Ger. em.* 1012. 1 *and* 2–*Park.* 918 *and* 2–*Ger.* 859–*Matth.* 763–*Trag.* 115–*Lon.* 79.

Whole plant smooth. *Leaves* cut into very slender strap-shaped segments. Proper calyx 5 leaves, permanent, more distinctly formed than is usual in umbelliferous plants. *Styles* permanent, reflected. *Outer* florets of the umbellules barren; petals larger, radiated, expanding; *central* florets fertile, petals equal, bent inwards. *Flowers* whitish. *Seeds* 2, continuing united so as to form a globe.

*Common Coriander.* Cornfields, road sides, and dunghills. A. June, July.†

* Linnæus says, that the radical fibres of this plant form the basis of the Calculus Ægagropila, but though I have examined several of these balls, I never found it so. Mr. GOUGH. The roots and seeds are aromatic and acrid. They have been used as stomachics and carminatives. Sometimes they are given to cure tertians; and there is no doubt but they will often answer as well as pepper, and other acrid aromatics.

† The leaves have a very strong and disagreeable scent. The seeds are grateful to the taste, and incrusted with sugar are sold by the confectioners under the name of coriander, comfits. The Edinburgh college use them as correctors in the bitter infusion and the preparations of senna, nothing so effectually covering the disagreeable taste of that medicine. They have been considered as suspicious, if not deleterious, but I have known 6 drams of them taken at once, without any remarkable effect.

SCAN'DIX. *Bloss.* radiated: central *florets* frequently male: *petals* notched at the end: *styles* permanent: *fruit* awl-shaped.

odora'ta. S. Seeds furrowed; angular.

*Jacq. austr. app.* 37–*E. bot.* 697–*Kniph.* 4–*Riv. pent.* 57, *odorata*–*H. ox.* ix. 10. 1–*Dod.* 701. 1–*Lob. obs.* 423. 2. *and ic.* i. 734. 1–*Ger. em.* 1039. 3–*Park.* 935. 1–*Ger.* 882. 2–*Blackw.* 243.

*Leaves* trebly winged; *little-leaves* with winged clefts; *segments* deeply and sharply serrated. *Seeds* longer than the umbellules. WOODWARD. *Umbels* on fruit-stalks, both lateral, and terminating. *Seeds* of a sweet agreeable taste. Whole *plant* of an aromatic scent. Dr. STOKES. Flowers white.

*Sweet Ciceley*, or *Shepherd's-needle. Great Sweet Chervil. Sweet Fern.* Orchards and waste places, but always near houses. LIGHTF. ST. And hedges. HUDS. Banks of the Derwent above Chatsworth. Mr. WHATELY. Pretty common near Leeds, and certainly wild. Mr. WOOD. In an orchard at the top of Souston's Roche, near Shelshley Walsh, Worcestershire. Mr. BALLARD.—Llangollen Monastery, Denbighshire, and White Ladies near Boscobel, Shropshire. Mr. DICKENSON. Tixall near Stafford.] A. June.*

Pec'ten. S. Seeds with a very long beak: leafits with many fine divisions.

*Jacq. austr.* 263–*Curt.* 249–*Fl. dan.* 844–*Riv. pent.* 38, *Scandix*–*Dod.* 701. 2–*Lob. obs.* 419. 2, *and ic.* 726. 2–*Ger. em.* 1040. 1–*Park.* 916. 1–*J. B.* iii. 6. 71. 2–*H. ox.* ix. 11, *row* 2. 1–*Matth.* 527–*Ger.* 884.

*Seeds* thread-shaped, containing a kernel at the base. LINN. From 8 to 18 inches high. Involucr. none. *Umbel* of 2 or 3 spokes, *Involucell.* leafits cloven. *Umbellules* of 7 or 8 florets. *Fruit* flatted at the base, finely serrated at the edges. The glandular *receptacle* crowning the germen of a fine purple. By carefully dividing the germen after it has shot out an inch or more in length, a tube continued from the styles down to the seeds may be discovered. *Petals* white.

*Common Shepherds Needle. Crake Needle. Venus Comb.* Corn fields. A. June, July.

* The seeds are used in the North of England for polishing and perfuming oak floors and furniture. Mr. WOODWARD.

S. Seeds glossy, cylindrical and beaked: umbels lateral, nearly sitting. Cerefo'lium.

*Jacq. austr.* 390–*Fuchs.* 216–*J. B.* iii. 2. 75–*Dod.* 700. 2–*Trag.* 471–*Riv. pent. t.* 43–*Ger. em.* 1038. 1–*Matth.* 526–*Ger.* 882. 1–*H. ox.* ix. 11. *row* 1. 1–*Lonic.* 1. 238–*Blackw.* 236.

*Leaves* of an exceedingly delicate texture. *Umbels* sometimes from the forks of the stem; often on fruit-stalks from a line to an inch in length. *Spokes* woolly, generally 4, but sometimes 3 and 5; those of the umbellules 10 and 12. *Involucr.* leaf, strap-shaped. *Bloss.* white. Dr. Stokes.

*Common Chervil. Chervil Shepherds Needle.* [Near Worcester, in considerable plenty in the hedge on the South East side of the Bristol road, just beyond the Turnpike. And in the hedges in Upper and Lower Old Swinford. Stokes.]

A. May.*

S. Seeds egg-shaped, rough with hair: blossoms uniform: stem smooth, see Caucalis *scandicina*. Anthris'cus.

CHÆROPHYL'LUM. *Involucellum* reflected, concave: *petals* heart-shaped, bent inwards: *fruit* shining, generally smooth, oblong.

C. Stem smoothish, scored, a little swoln at the knots. sylves'tre.

*Curt.* 273–*Jacq. austr.* 149–*E. bot.* 752–*H. ox.* ix. 11. 5–*Fuchs.* 525–*Riv. pent.* 44, *Cerefol. sylv.*–*Pet.* 25. 2–*Lonic.* i. 238.

*Stem* woolly, particularly downwards. Central florets of the umbellules often barren. Dr. Stokes. Flowers white. Styles permanent.

*Wild Ciceley. Cow-weed. Cow Parsley. Cow-weed Chervil.* Hedges, orchards, and pastures. P. May, June.†

* It is cultivatd in our gardens as a pot-herb, and for sallads. It is slightly aromatic and aperient. Cows are extremely fond of it. Sheep and goats eat it. Horses refuse it.

† The roots eaten as parsneps have been found poisonous. The umbels afford an indifferent yellow dye; the leaves and stems a beautiful green. Its presence indicates a fruitful soil. Neither horses, sheep, or goats are fond of it. Cows and swine refuse it. Linn.—Cows and rabbits are fond of it. In some parts of the kingdom, in times of scarcity, it is used as a pot-herb. Curt.—Cows are so fond of it, that when a pasture is over-run with it, as is often the case about Dudley, they always turn them in to eat it up. Mr. Wainwright.

te'mulum. C. Stem spotted, joints swollen: stem and leaves rough: leafits cut, acute.

*Fl. dan.* 918–*Jacq. austr.* 65–*Riv. pent.* 49, *Myrrhis.*–*Ger.* 867–*Ger. em.* 1038. 2–*Park.* 915–*Pet.* 25. 3–*H. ox.* ix. 10. 7–*J. B.* iii. 2. 70. 2 *and* 1.

From ½ to 1 yard high. Involucr. none, or from 1 to 4 leaves. Involucell. 1 leaf, with 6 or 8 clefts. Flowers very white; petals cloven. RELHAN. Umbellules in the centre barren. LINN.

*Wild Chervil.* In hedges, common. A. July, Aug.

IMPERATO'RIA. *Petals* bent inwards, notched at the end: *seed* compressed, with a broad, membranaceous border, and 3 ridges on the back.

Ostru'thium. I.

*Woodv.* 35–*Riv. pent.* 7. *Imperatoria*–*Fuchs.* 763–*J. B.* iii. 2. 137–*Blackw.* 279–*Park.* 942–*Trag.* 433–*Matth.* 775–*Lonic.* i. 228. 2–*Clus.* ii. 194. 2–*Dod.* 320. 1–*Lob. obs.* 398. 1. *and ic.* 700. 1–*Ger. em.* 1001. 1–*H. ox.* ix. 4. *row* 1. 1–*Garid.* 55.

Found by Mr. Lightfoot on the banks of the Clyde, particularly about Arden Caple. Isle of Bute, near Mount Stewart. [Near Bridgnorth, but in a situation that would allow of its being an outcast of a garden.]

*Common Masterwort.* P. June.*

PASTINA'CA. *Petals* rolled inwards; entire: *seeds* elliptical, compressed, leaf-like, smooth, border thin, narrow.

sati'va. P. Leaves simply winged; downy underneath.

Var. 1. Wild.

*E. bot.* 556–*Kniph.* 6–*Riv. pent.* 6, *Patinaca*–*Fuchs.* 753–*J. B.* iii. 2. 149–*H. ox.* ix. 16. 2–*Matth.* 776–*Ger.* 856.

Stem 3 or 4 feet high, membranaceous at the corners. *Involucrum* none. *Umbel* spokes 6 to 12. *Involucell.* sometimes of 1 leaf. *Umbellules,* spokes short, numerous. Flowers yellow.

* Root warm and aromatic; a sudorific, diuretic, and sialagogue; recommended in dropsy, debilities of the stomach and bowels, and an infusion of it in wine is said to have cured quartans that have resisted the bark. Dr. STOKES. When chewed it excites a copious flow of saliva, exciting a warm and not disagreeable sensation in the gums, and frequently curing the rheumatic tooth-ache.

*Common Wild Parsnep.* Borders of ploughed fields, in limestone. [And marl. St. frequent in Gloucestershire.]
B. June, July.

Var. 2. Leaves broader.

*Fuchs.* 751–*Dod.* 680. 2–*Ger. em.* 1025–*J. B.* iii. 2. 150–*Ger.* 870. 2–*Matth.* 747–*Ger.* 870. 1–*Dod.* 680. 1–*Lob. obs.* 407. 2, *and ic.* i. 709. 2–*Ger. em.* 1025. 1–*Park.* 944.

Retzius remarks that the cultivated garden Parsnep has wing-cleft leafits, furnished with ear-like appendages, and that it is either hairy or smooth.*

*Garden Parsnep.*

## SMYRNIUM. *Petals* keeled, tapering to a point: *fruit* egg-globular, bulging, angular with ribs.

S. Stem-leaves growing by threes; on leaf-stalks: serrated. Olusa'trum.

*Dicks. h. s.–E. bot.* 330–*Ger.* 864. 2–*Trag.* 436–*Lonic.* i. 237. 2–*Blackw.* 408–*J. B.* iii. 2. 126–*Dod.* 698. 1–*Lob.* i. 708. 2–*Ger. em.* 1019–*Park.* 930. 1–*Pet.* 24. 1–*H. ox.* ix. 4, *row* 2. *n.* 1. *fig.* 3*d.*

Root-leaves in triple threes, stem-leaves in threes; the upper ones opposite, 3 on a leaf-stalk. Sheaths of the leaves ragged and fringed. *Involucell.* very short. Central florets male, the others hermaphrodite. Linn. Whole plants smooth, pale green, often of a sickly yellowish cast. Flowers greenish yellow.

*Alisanders. Common Alexanders.* Ditches and rocks on the sea coast. About Scarborough Castle, Deptford, Battersea, Vauxhall, and Nottingham. [Almost covers the South-west end of Anglesea. Penn. *wales* ii. 253. Bungay, Suffolk. Mr. Woodw. Under the walls of York. Mr. Wood. Between Great Comberton and Wollershill, under hedges near the Avon, Worcestershire. Nash. Found by the Rev. Mr. Welles at Hill Croome, Worcestershire. Mr. Ballard. And Pirton, plentifully. Mr. Hollefear. Very common in all the Western counties, and also in the flat parts of Gloucestershire. E. May, June.†

* The roots when cultivated are sweeter than carrots, and are much used by those who abstain from animal food in Lent: they are highly nutritious. In the North of Ireland they are brewed, instead of malt, with hops, and fermented with yeast. The liquor thus obtained is agreeable. The seeds contain an essential oil, and will often cure intermittent fevers. Hogs are fond of the roots, and quickly grow fat with them.

† It was formerly cultivated in our gardens, but its place is now better supplied by celery. It is boiled and greedily eaten by sailors returning from long voyages, who happen to land at the South-west corner of Anglesea. Pennant.

ANE'THUM. *Petals* entire; rolled inwards: *fruit* lentil-shaped, but compressed; small, scored, bordered.

Fæni'culum. A. Leaves with many divisions, hair-like: seeds egg-oblong, tapering at each end, not bordered.

*Mill. ill-Sheldr.* 15–*Woodv.* 160–*Riv. pent.* 61, *Fænicul.*–*Tourn.* 164–*Dod.* 297–*Lob. obs.* 448. *and ic.* i. 775. 2–*Ger. em.* 1032–*Park.* 884–*Blackw.* 288–*H. ox.* ix. 2. *row* 1. 1–*Lonic.* 234–*Fuchs.* 501–*Trag.* 448–*J. B.* iii. 2. 3–*Ger.* 877. 1.

From 3 to 5 feet high; blue green. Flowers yellow.

*Common Fennel. Finckle. Fennel Dill.* Chalk Cliffs. [Near Marazion, Cornwall, plentiful. Mr. WATT. Nottingham Castle. Mr. WHATELY.—Near Spetchly, Worcestershire. ST.—Western coasts, common.] B. July, Aug.*

CA'RUM. *Involucr.* 1 leaf: *petals* united, bent inwards, notched at the end: *fruit* small, elliptical, bulging, roundish and scored.

Ca'rui. C.

*Fl. dan.* 1091–*Ludw.* 156–*Jacq. austr.* 393–*Woodv.* 45–*Tourn.* 160. 3–*Blackw.* 529–*Riv. pent.* 55, *Carum*–*Ger.* 879–*H. ox.* ix. 9, *row* 2. 1–*Pet.* 26. 1–*Dod.* 299. 2–*Lob. obs.* 418. 1, *and ic.* i. 724. 1–*Ger. em.* 1034–*Park.* 910.

*Plant* 2 to 3 feet high; quite smooth. *Leaves* doubly compound; *leafits* in sixes, in a sort of whirl, 2 of them longer. *Involucr.* from 1 to 5 leaves. *Umbel*, spokes 9 to 12. *Florets* all fertile. *Petals* and *styles* slightly tinged with red.

*Common Caraway.* Meadows and pastures. [Near Bury. Mr. CULLUM.] B. May, June.†

* The tender buds are useful in sallads.—The leaves boiled are used in sauce for several kinds of fish, and eaten raw with pickled fish.—In Italy the stalks are blanched as a winter sallad.—The seeds abound with an essential oil, which is carminative and diuretic, but not heating.—The *Papilio machaon* feeds upon it.

† Parkinson says, the young roots are better eating than parsneps.—The tender leaves may be boiled with pot-herbs.—The seeds are used in cakes; incrusted with sugar are called caraway comfits, and are distilled with spirituous liquors for the sake of the flavour they afford.—The seeds were formerly recommended by Dioscorides to pale-faced girls, and in more modern days their use in that case is not forgotten.—They are no despicable remedy in tertian agues.—They abound with an essential oil, which is antispasmodic and carminative.—Sheep, goats, and swine eat it. Cows and horses are not fond of it.

PIMPINELLA. *Petals* bent inwards: *styles* upright: *Summits* nearly globular: *fruit* small, egg-oblong; with 5 elevated ridges.

P. Leaves winged: leafits on the root-leaves roundish, those of the upper ones strap-shaped. *Sp. Pl.* saxifraga.

*E. bot.* 407.

Var. 1. All the leafits egg-shaped, serrated.

*Tabern. ic.* 88; 255, 1 *and* 2 *of the Germ. edition–Ger.* 887. 1 *and* 2–*J. B.* iii. 2. 111, 1 *and* 2–*H. ox.* ix. 5. 6–*Trag.* 466–*Fuchs.* 609–*Matth.* 1032.

Pimpinella saxifraga, α *Fl. Suec.* Pimpinella minor, β *Fl. Lapp.* There is a wonderful diversity in the size and in the foliage of these plants. The root-leaves are winged, the leafits egg-shaped and serrated; but the stem-leaves are many-cleft, the leafits strap-shaped. But it often happens that the root-leaves become like those on the stem, and then it has been supposed a distinct species although the same plant. LINN.

Var. 2. Leafits on the root-leaves egg-shaped, serrated, those on the stem-leaves strap-shaped, mostly entire; floral-leaves strap-shaped.

*Jacq. austr.* 395–*Clus.* ii. 197. 2–*Dod.* 315. 2–*Lob. obs.* 413. 1, *and ic.* 719. 2–*Ger. em.* 1044. 2–*Park.* 947. 4–*Cam. epit.* 776.

Var. 3. Leafits on the root-leaves egg-shaped, serrated; on the lower stem-leaves deeply wing-cleft: floral-leaves winged.

*Fl. dan.* 669–*Blackw.* 472–*Riv. pent.* 83, *Pimpinella minor.*

Pimpinella minor. α. *Fl. lapp.* 106.

Var. 4. All the leaves doubly winged, leafits strap-shaped, mostly entire; floral-leaves winged.

Specimen from Mr. RELHAN.

Var. 5. *dissecta,* Root-leaves doubly winged, leafits wing-cleft, segments entire; stem-leaves doubly winged, leafits entire; floral-leaves cloven at the end.

*Retz.* iii. *t.* 2.

The first spring leaves the first year of its growth are simply winged, the leafits roundish, but when these vanish it never puts forth other than such as are mentioned above.

Pimp. *dissecta.* RETZIUS.

Var. 6. All the leaves winged, leafits wing-cleft, segments spear-shaped; floral-leaves wing-cleft.

*Jacq. austr.* 397–*Gouan. ill.* 15–*Riv. pent.* 80, *Pimpinella.*

Pimpinella orientalis. GOUAN. JACQUIN.

All the above varieties are probably occasioned by the different age of the plant, and the greater or lesser expansion of its foliage according to the soil in which it grows. It is probable that the first fruit-leaves are the same in all, that is, simply winged, the leafits egg-shaped and serrated. When these disappear, the lower leaves have wing-cleft, or doubly winged leaves, and the upper leaves become also more compound with the rest. An attentive cultivation is wanted to demonstate whether such be the case, or whether some of them be really distinct species.

*Small Burnett Saxifrage. Saxifrage Anise.* Dry gravelly soil. P. Aug. Sept.

mag'na. P. Leaves uniform, winged; leafits spear-shaped, irregularly serrated; floral-leaves wing-cleft.

*E. bot.* 408–*Fl. dan.* 1155–*Jacq. austr.* 396–*Dod.* 315. 1–*Lob. obs.* 413. 2, *and ic.* i. 720. 1–*Ger. em.* 1044. 1–*Park.* 947. 1–*Fuchs.* 608–*J. B.* iii. 2. 109–*Clus.* ii. 197–*Barr.* 243–*H. ox.* ix. 5, *row* 1. 1–*Cam. epit.* 775–*Pet.* 26. 5–*Lonicer.* 229. 2–*Moris. umb.* 5. *f.* 1.

*Leafits* broader than they are long, serrated, as if besmeared with oil, veined, of the appearance of those of *Skirrets* (none circular, or strap-shaped, or divided into many parts.) *Leaf-stalks* compressed. LINN. *Stem* 2 to 3 feet high. *Stem-leaves* gradually narrower, at length strap-shaped, almost entire. *Umbel*, spokes 14. *Umbellules*, spokes 10 to 18. *Petals* white. RELH.

*Great Burnet Saxifrage*, or *Anise*. Woods and hedges, in lime-stone. [Ripton Wood, Huntingdonshire. Mr. WOODWARD.—Worcestershire. Mr. BALLARD.—Hollinghall Wood, Leicest. Dr. ARNOLD.—About Thirsk, and Burrowbridge, Yorkshire, very common. Mr. ROBSON.] P. Aug. Sept.

Var. 2. LINN. Blossoms pale rose colour.

*Riv. pent.* 81, *Pimpinella fl. rubro.*

[In Wednesbury Field, Staffordsh.] Aug.

Var. 3. All the leaves jagged. RAY.

*Pet.* 26. 6–*H. ox.* ix. 5. *row* 1. 3–*Moris. umb.* 5. 1.

Hedges near Maidstone, Kent. RAY.*

* This and the former species partake nearly of the same qualities. The root is very acrid, burning the mouth like pepper. It affords a blue oil. Its acrimony hath occasioned it to be used to cure the tooth-ache, and to cleanse the skin from freckles. It is chewed to promote the secretion of saliva, and is used in gargles for dissolving viscid mucus in the throat. In Germany it is prescribed in the asthma and dropsy.—The *Papilio Machaon* is found upon both species.

P. Plant dwarfish: umbels very numerous, compound and simple: male and hermaphrodite flowers on distinct plants. HUDS. dioi'ca.

*Jacq. austr.* 28–*Clus.* ii. 200. 1–*Ger. em.* 1054. 3–*Ger.* 863. *J. B.* iii. 2. 18. 1–*Lob. adv.* 331. 2, *and ic.* i. 745. 2–*Ger. em.* 1021. 3.

*Stem* a hand's breadth high, wide spreading, smooth, scored, with but few leaves. *Leaves* 3 or 2-fingered, strap-shaped. *Umbels*, 1 terminating, and 2 lateral, opposite, generally compound, some few simple. *Petals* long-spear-shaped, bowed in, not nicked. *Stam.* white, long. *Involuc.* none. Some *plants* with only stamens, others with stamens and pistils. Nearly allied to *P. glauca*, or constituting a distinct genus. LINN. *Root* spindle-shaped. *Fem.* flowers have 5 stamens, but the anthers are imperfect. HUDS. The male plant has a yellow sickly appearance. Mr. SWAYNE. *Flowers* yellowish or whitish.

*Least Anise.* Mountainous pastures. Uphill, Somersetshire. [St. Vincent's Rock, just behind the Hot Well House, Bristol.] P. May, June.

## A'PIUM. *Involucr.* 1 leaf: *petals* equal: *fruit* small, bulging, ribbed: *styles* bent backwards.

A. Stem-leaves wedge-shaped. grave'olens.

*Kniph.* 5–*Ludw.* 180–*Fl. dan.* 790–*Blackw.* 443–*Ger.* 862–*H. ox.* ix. 9. 8–*Fuchs.* 744–*J. B.* iii. 2. 100–*Trag.* 464–*Pet.* 26. 12–*Matth.* 768–*Dod.* 695–*Lob. obs.* 405. 2, *and ic.* i. 707. 1–*Ger. em.* 1014–*Park.* 926.

*Involucr.* often wanting. LINN. *Stem* smooth, shining, deeply furrowed. *Umbels*, some sitting, others on long fruit-stalks, appearing as if proliferous. Mr. WOODWARD. *Root-leaves* winged. *Leafits* divided into 3 lobes, serrated. *Umbels*, spokes 5 to 11; those of the *umbellules* 11 to 16. *Petals* white.

*Smallage. Parsley.* Ditches and marshes. [Salt marshes near Yarmouth, and in the midland counties. Mr. WOODW.—Bog near Marazion, Cornwall. Mr. WATT—Moors, Sansom Fields, Worcester. ST.—Side of the river opposite St. Vincent's Rocks.] B. Aug.*

* The root in its wild state (when it grows near water, ST.) is fetid, acrid, and noxious; but when cultivated (in dry ground, ST.) it loses these properties, and the root and lower part of the leaf-stalks and stem blanched by covering them up with earth, are eaten raw, boiled in soups, or stewed. In this latter state it is called *Celery*. They are said to be hurtful to people subject to nervous complaints. They are certainly good antiscorbutics. The seeds yield an essential oil. Sheep and goats eat it. Cows not fond of it. Horses refuse it.

ÆGOPO'DIUM. *Fruit* egg-oblong, scored, tapering at each end.

Podagra'ria. Æ. Upper leaves 3 together, lower ones in triple threes.

*Fl. dan.* 670–*Riv. pent.* 47, *Podagraria–Ger.* 848.–*J. B.* iii. 2. 145–*Dod.* 320. 2–*Lob. obs.* 398. 3, *and ic.* i. 700. 2–*Ger. em.* 1001. 2–*Park.* 943–*Pet.* 25. 10–*H. ox.* ix. 4. 11.

Upper *leaves* opposite. LINN. *Root* creeping. *Umbels* and *umbellules*, spokes 14. *Blossom* white. RELH. *Leafits* spear-shaped, serrated. Mr. WOODWARD.

*Herb Gerard. Gerard's Goutweed. Ashweed. Ground Ash.* Orchards, gardens, and pastures, common. P. May.*

## TRIGYNIA.

VIBUR'NUM. *Cal.* with 5 divisions; superior: *bloss.* 5-cleft: *berry* of 1 cell; closed: *seed* 1.

Lanta'na. V. Leaves heart-shaped, serrated, veined, cottony underneath.

*E. bot.* 331–*Jacq. austr.* 341–*Matth.* 217–*Dod.* 781–*Lob. obs.* 591. 3–*Ger. em.* 1490–*Kniph.* 1–*Walc.*–*Park.* 1448–*J. B.* i. 558.

*Leaves* oval; the down radiated, each hair consisting of several rays diverging from a point. *Flower leaves* coloured. *Bloss.* cloven half way down; white. *Summits* so much united as to appear as one. *Berries* black.

*Pliant Mealy-tree. Way-faring-tree.* Woods and hedges, in calcareous soil. [Herts, frequent. Mr. WOODWARD.—Ripple Field, Worcestershire. Mr. BALLARD.] S. May.†

O'pulus. V. Leaves lobed: leaf-stalks set with glands.

*E. bot.* 332–*Fl. dan.* 661–*Ger.* 1236. 1–*Dod.* 846. 1–*Ger. em.* 1424. 1–*Park.* 209. 5–*Trag.* 1002–*Matth.* 1269–*J. B.* i. 553.

The neutral florets in the circumference of the umbel are the first to expand. They have 5 minute imperfect stamens and 3 pistils, which are sometimes covered by small projecting scales, of the same substance with the blossom, but the scales are not always present. These abortive parts of fructification drop before

* The leaves may be eaten early in the spring with other pot-herbs. Cows, sheep, and goats eat it. Horses are not fond of it.

† The bark of the root is used to make bird-lime. The berries are drying and astringent.

the perfect flowers expand. The summits are scarlet, but there are no styles to the pistils, and hardly any filaments to the stamens. *Leaf-stalks* with 1 or 2 pair of glands; those near the extremity of the flowering branches with 5 to 8 thread-like stipulæ, frequently terminated by glandular knobs. Mr. GOUGH. *Umbels* with 5 to 7 spokes. *Blossoms* white. *Berries* red.

*Water Elder. Guelderose Mealy-tree.* Woods and wet hedges. S. May, June. Berries ripe in Sept.

Var. 2. The *Guelder Rose* is a variety in which the whole of the *umbel* consists of neutral florets, and is contracted into a globular form. Dr. STOKES.

## SAMBU'CUS. *Cal.* 5-toothed: *bloss.* regular, with 5 shallow clefts: *berry* juicy, closed, many-seeded.

S. Tufts with 3 divisions; stipulæ leaf-like: stem herbaceous. E'bulus.

*Curt.-E. bot.* 475-*Fl. dan.* 1156-*Woodv.* 260-*Blackw.* 488.-*Mill.* 126-*Matth.* 1270-*Lob. obs.* 589. 2-*Ger. em.* 1426-*J. B.* i. *a.* 549. 2-*Fuchs.* 65-*Ger.* 1238-*Trag.* 796-*Park.* 209. 7.

*Stems* very brittle. *Leaves* winged, with several pair of leafits. *Leafits* spear-shaped, serrated, unequal at the base, the upper margin deficient. WOODWARD. *Stem* and *leaf-stalks* furrowed. *Little leaves at the base of the leaf-stalks* heart-shaped. *Calyx* segments sometimes 6, purple. *Bloss.* segments pointed, white above; purple beneath. *Anthers* purple; one fixed on each side of every filament, so that there are properly speaking 10 anthers. *Berry* 3-celled, 3-seeded.

*Dwarf Elder. Wallwort. Danewort.* Hedges and road sides. [Tutbury Castle, Staffordsh. Mr. PITT.—On Goosegreen, near Dalton, Lancashire. Mr. ATKINSON.—At the foot of Tamworth Castle Hill, towards the river.] S. July.*

S. Tufts with 5 divisions: leaves winged: leafits nearly egg-shaped, serrated: stem tree-like. ni'gra.

*E. bot.* 476-*Fl. dan.* 545-*Blackw.* 151-*Woodv.* 78-*Matth.* 1268-*Ger.* 1234-*Fuchs.* 64-*Ger. em.* 1422. 1-*Dod.* 845. 1-*Ger. em.* 1422. 2-*Park.* 208. 1-*Trag.* 997-*J. B.* i. *a* 544.

* Has the same medical properties with the *S. nigra*, but in some respects more violent, and therefore less manageable. A dram and a half of the root is a strong purge.—The berries give out a violet colour.—The green leaves drive away mice from granaries, and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which they are liable. Neither cows, goats, sheep, horses, or swine will eat it.

*Berries* green, at length blackish purple, with a juice of the same colour. *Seeds* 3. RELH. *Blossoms* white. *Berries* black. *Anthers* yellow, arrow-shaped, one on each filament.

*Common Elder.* Woods and damp hedges. S. April, May.*

Var. 2. Berries white or green.

Staffordshire, Warwickshire, and Shropshire. The berries of this also are used for making wine by some housewives in the country.

Var. 3. *laciniata*, Leafits jagged.

*Kniph.* 8–*Ger.* 1234. 2–*Dod.* 845. 2–*Lob. obs.* 589. 2–*Ger. em.* 1422. 3–*J. B.* i. *a.* 549. 1–*Park.* 208. 3.

Retzius in his 3d fasc. obs. believed this to be a distinct species, but in his 6th fasc. he abandons this opinion, having found that the seeds uniformly produce only the S. nigra.

*Parseley-leaved Elder.* In hedges, near Manchester, Bristol, Dartford, and Walsoken, near Wisbech. S.

## STAPHYLE'A. *Cal.* with 5 divisions: petals 5: *caps.* inflated, united: *seeds* 2, globular, marked with a scar, somewhat like a nut.

pinna'ta. S. Leaves simply winged.

*Kniph.* 3–*Gisek.* 56–*Matth.* 274–*Lonic.* 30. 2–*Lob. obs.* 540. 2–*Park.* 1418–*J. B.* i. *a.* 274–*Ger.* 1249–*Trag.* 1098–*Dod.* 818–*Ger. em.* 1437.

* The whole plant has a narcotic smell: it is not well to sleep under its shade.—The *wood* is hard, tough, and yellow. It is commonly made into skewers for butchers; tops for angling rods; and needles for weaving nets. It is not a bad wood to turn in the lathe.—The inner green *bark* is purgative, and may be used with advantage where acrid purgatives are requisite. In smaller doses it is diuretic, and has done eminent service in obstinate glandular obstructions, and in dropsies. If sheep that have the rot are placed in a situation where they can get at the bark and the young shoots, they will soon cure themselves. It is an ingredient in the black dye.—The *leaves* are purgative like the bark, but more nauseous. They are an ingredient in several cooling ointments. If turneps, cabbages, fruit-trees, or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of elder, the insects will not attack them. *Phil. Trans.* v. 62. p. 348. A decoction of the *flowers*, taken internally, is said to promote expectoration in pleurisies. If the flowers are fresh gathered they loosen the belly. Externally they are used in fomentations to ease pain and abate inflammation. Many people use them to give a flavour to vinegar. They are fatal to turkies. A rob prepared from the *berries* is a gentle opener, and promotes perspiration. The juice of the berries is employed to give a red colour to raisin or sugar wines. The berries are poisonous to poultry.—The *pith* being exceedingly light, is cut into balls, used in electrical experiments. Sheep eat it. Horses, cows, and goats refuse it. LINN.—Others say that cows are fond of it. The *Aphis Sambuci*, and the *Phalæna Sambucaria*, are found upon it.

*Styles* sometimes 2, but mostly 3. *Capsule* 3-celled. *Seeds* constantly 2 in the larger cells, that in the third abortive. LEERS. *Leafits* varying from egg-shaped to spear-shaped, but always pointed. *Bloss.* in whirls; white.

*Winged Bladder nut-tree.* Hedges near Pontefract, Yorkshire. RAY.—About Ashford, Kent. PARK. S. June.

TA'MARIX, *Cal.* with 5 divisions; petals 5: *caps.* 1-celled, 3-valved: *seeds* with hairs.

T. Flowers with 5 stamens: branches scaly: scales sitting, alternate. gal'lica.

*Mill. ic.* 262. 1–*Blackw.* 331. 2–*Lob. adv.* 447. *and ic.* 218, *narbonens* :–*Kniph.* 2.

Flowers in long slender spikes, white, with a rosy tinge.

[In great plenty on St. Michael's Mount, Cornwall, and every where about the Lizard, though chiefly on the banks of earth called hedges. First communicated to me by Mr. GIDDY. —On the beach near Hurst Castle, and elsewhere on the Western coast of England. Dr. PULTENEY.] S. July.

CORRIGIO'LA. *Cal.* 5-leaved, border membranaceous, white: petals 5: *nut* small, roundish, but 3-sided.

C. Leaves oblong: flowers in a terminating bundle. littora'lis.

*E. bot.* 668–*Fl. dan.* 334–*J. B.* iii. 379. 2–*H. ox.* v. 29. 1.

Flowers sometimes lateral. *Cal.* very like the blossom, but the segments towards the base are of a rich chesnut brown. The whole habit of the flowers, more particularly the seeds and the pistils, resemble the Polygonums. In Portugal it is not limited to the sea side, but grows in hedge banks, and in ploughed fields at a distance from the sea.

*Sand Strapwort.* [Found by Mr. Hudson on Slapham Sands beyond Dartmouth and near the Star Point. Mr. MARTYN.] A. June. Sept.

ALSI'NE. *Cal.* 5-leaved: petals 5, equal: *caps* 1-celled, 2-valved.

A. Petals cloven down to the base: leaves egg-heart-shaped. See Stellaria *media*. me'dia.

## TETRAGYNIA.

PARNA'SSIA. *Cal.* with 5 divisions: petals 5: *nectaries* 5, heart-shaped, fringed, with little balls on the top of the fringe: *caps.* 4-valved, 1-celled: *seeds* with a membranaceous border.

palus'tris. P. Nectaries simple.

*Dicks. h. s.–E. bot.* 82–*Kniph.* 7–*Ludw.* 110–*Mill. ill–Fl. dan.* 584–*Dod.* 564. 3–*Lob. obs.* 330. 1–*Ger. em.* 840. 1–*Park.* 429. 2–*H. ox.* xii. 10. 3–*Ger.* 691. 2–*J. B.* iii. 537. 2.

*Stem* somewhat twisted. Whilst it is in flower, the germen having neither *style* nor *summit*, is open at the top. The stam. lay their anthers alternately upon the orifice, and having discharged their pollen, recede back to the petals. LINN. *Stems* undivided, with 5 sharp corners. *Petals* a little scolloped at the edge, slightly nicked at the end; white, with semi-transparent greyish veins. *Nectaries* green, the globules yellow, from 10 to 15, generally 13. Stam. only half as long as the petals, at first not longer than the germen, but each in order becomes longer than the rest, as it sheds its pollen on the orifice of the germen, which closes as soon as all the anthers have shed their pollen. *Root-leaves* heart-shaped, on long leaf-stalks. *Stem-leaves* sitting.

*Grass of Parnassus. Marsh Parnassia.* Moist meadows in Wales and the northern counties. [Common in every boggy meadow in Norfolk. WOODWARD.—Also in Staffordshire and Worcestershire. Dr. STOKES.—Abundant in a meadow called the Moor, at Blymhill.—On the tops of the high lands about Buxton. Miss SPARROW.]* P. Aug. Sept.

## PENTAGYNIA.

STA'TICE. *Cal.* 1 leaf, entire, plaited, dry, permanent: petals 5: *caps.* 1-celled, without valves; *seed* upright.

Arme'ria. S. Stalk simple, with a head of flowers: leaves strap-shaped.

*Dicks. h. s.–E. bot.* 226–*Fl. dan.* 1092–*Walc.–Kniph.* 5–*Dod.* 564. 1–*Lob. obs.* 242. 1–*Ger. em.* 602. 1–*Park.* 1279. 13–*Ger.* 482. 1–*J. B.* iii. 336. 2–*Pet.* 72. 8.

* Another striking confirmation of the remark that the same plants may grow on mountains and in marshes, because the clouds resting on the tops of the mountains keep the air in a moist state, as is done by the fogs in meadows and marshes.

*Stalk* from 2 to 8 inches high, sheathed at the top by a skin-like involucrum which extends down it for near an inch from the base of the head of flowers. *Bloss.* pink.

*Common Thrift. Sea Gilliflower. Sea Cushion.* Meadows and rocks on the sea coast, and mountainous situation, as Snowdon, near Settle, and Ingleborough. [Wansley Dale, between Ascrig and Aysgarth. Mr. Wood.—Wells, Norfolk; Southwold, Suffolk. Mr. Woodward.—All the rocky coast of Cornwall. Mr. Watt.—Inchkeith in the Firth of Forth. On the Cliffs near Sidmouth, very large.] P. May, June.*

S. Stalk panicled, cylindrical: leaves smooth, without nerves; dagger-pointed underneath. Limo'nium.

*Kniph.* 4–*E. bot.* 102–*Blackw.* 481–*Fl. dan.* 315–*Matth.* 980–*H. ox.* xv. 1. *row* 1. *n.* 1. *f.* 4*th.*–*Dod.* 351–*Lob. obs.* 157. 3–*Ger. em.* 411. 1–*Park.* 1234. 1–*J. B.* iii. 876. 3.

Salt marshes, and rocks on the sea coast. [Wells, Norfolk: Southwold, Suffolk. Mr. Woodward.] P. July.—Sept.

Var. 1. Much smaller. Leaves gradually tapering to the base, having no regular leaf-stalks. Ray.

*Lob. adv.* 123–*Ger. em.* 411. 2.

We have 2 varieties corresponding with the above character; in the one the leaves short and blunt, in the other longer and more pointed. The sharp point at the end of the leaf marks them both as belonging to this species. Mr. Woodward. *Bloss.* of a very deep purple. Mrs. Watt.

Harwich. Ramsgate. Ray.—[Cornwall. Mrs. Watt.—Lynn. Mr. Woodward.]

Var. 2. Leaves longer, and taper-pointed. Flowers later. Ray.

*Lavender Thrift.* Sea banks near Walton, Essex; and between Heybridge and Maldon. Ray. [Both var. on the Lancashire coast at Low Furness, and on the West side of Milnthrope sands, Westmoreland. Mr. Gough.]

S. Stalk panicled, lying flat: the barren branches naked and bent backwards: leaves wedge-shaped, without any sharp points. reticula'ta.

*Pluk.* 42. 4.

*Root-leaves* oblong-wedge-shaped, on leaf-stalks. *Stipulæ* half embracing the stem, awl-shaped, terminating in a long point, membranaceous at the edge. Mr. Woodward.

* It is much used in gardens as an edging for borders, and when in full blossom gives a glowing tinge to pastures on the sea coast. Horses and goats eat it. Sheep are not fond of it.

*Matted Sea Lavender*, or *Thrift*. On the Norfolk coast. [At Wells, Norfolk, abundantly. Mr. WOODWARD.—At Blakeney. Messrs. CROWE and PITCHFORD.] P. July, August.

LI'NUM. *Cal.* 5-leaved: *petals* 5: *caps.* 10-valved, (E. bot.) 10-celled: *seeds* solitary.

(1) *Leaves alternate.*

usitatis'simum. L. Calyx and capsules dagger-pointed: petals scolloped; leaves spear-shaped: stem generally solitary.

*Curt.* 326–*Kniph.* 9–*Ludw.* 144–*Blackw.* 160. 2–*Woodv.* iii–*Fuchs.* 471–*J. B.* iii. 451–*Matth.* 414–*Dod.* 533–*Lob. obs.* 225. 1–*Ger. em.* 556–*H. ox.* v. 26. *row* 2. 1–*Lonic.* 153. 2–*Blackw.* 160. 1–*Trag.* 853.

*Stem* cylindrical. *Petals* sky blue, scored with deeper coloured lines. *Filaments* united at the base. *Styles* blue, thicker towards the top. The inner edge of the cup a little fringed.

*Common Flax.* Corn fields and sandy pastures in Dorsetshire and Devonshire. [Near Cawston, Norfolk. Mr. BRYANT. Corn fields, Ripton, Huntingdonshire. Mr. WOODWARD. Downs, old pastures, and corn fields, near to commons about Redruth and Trelubbus, Cornwall. Mr. WATT.] A. July.*

peren'ne. L. Calyx and capsules blunt: leaves spear-shaped; very entire.

Var. 1. Upright.

*E. bot.* 40–*Mill.* 166. 2–*Kniph.* 2.

*Calyx* leaves oval, hollow, with a short bluntish point at the end, not fringed or hairy, marked with 5 lines. *Bloss.* blue. Sr.

*Perennial Flax.* Pastures and meadows in a calcareous soil. [Marham, Norfolk. Ixworth, Suffolk. Gogmagog Hills. Mr. WOODWARD.] P. June, July.

* This valuable plant originally came from those parts of Egypt which are exposed to the inundations of the Nile. The *seeds* yield, by expression only, a large proportion of oil, which is an excellent pectoral, as is likewise the mucilaginous infusion. They make an easy and useful poultice in cases of external inflammation; and they are the food of several small birds. After the oil is expressed, the remaining farinaceous part, called Oil Cake, is given to oxen, who soon grow fat upon it. The *oil* itself differs in several respects from other expressed oils: it does not congeal in winter, nor does it form a solid soap with fixed alkaline salts; and it acts more powerfully as a menstruum upon sulphureous bodies. When heat is applied during the expression it gets a yellowish colour, and a peculiar smell. In this state it is used by the painters and the varnishers. The fibres of the *stem* are manufactured into linen, and this linen, when worn to rags, is made into paper.

Var. 2. Stem trailing. Both varieties rise from the same root. In the *upright* the *stam.* are longer than the pistils, in the *trailing* they are shorter. Huds.

L. Calyx segments tapering to a point: leaves scattered, strap-awl-shaped, rough when stroked downwards. tenuifo'lium.

*E. bot.* 381–*Jacq. austr.* 215–*Clus. hist.* i. 318. v.

Var. 2. *Angustifolium* (Huds.) Stem reclining at the base.

*Bocc. mus. t.* 125.

Clus. hist. i. 318. left hand fig. Lob. obs. 226, 2, and ic. 1. 413. right hand fig. are pretty good representations of it, but the stems are too upright at the base. *Stems* numerous, branched towards the top. *Leaves* spear-strap-shaped, stiff, pointed, scattered, hairy underneath, as far as the stem is trailing pointing upwards, above that in various directions. *Calyx* shorter than the capsule, egg-shaped, blunt, but ending in a sharp point, keeled with a prominent rib. *Bloss.* much smaller than that of *L. perenne*, pale reddish purple with darker lines; *petals* not absolutely entire. *Style* not bent back beyond the stamens. Woodward. *Root* simple, fibrous, pale brown: woody, perennial. E. bot. *Stalks* numerous, ascending, round, smooth, leafy, branched only towards the top; from 18 to 24 inches or more in height. *Leaves* strap-spear-shaped, little if at all hairy, very entire, irregularly disposed, lying nearer to the stem than in the L. usitatissimum. *Flowers* in a panicle. *Calyx* leaves pointed, keeled, permanent, membranaceous, not hairy at the edge. *Petals* bluish, streaked with purple veins; wedge-shaped, deciduous, slightly united by the claws. *Stamens* 5, white, scarcely broader at the base. *Anthers* blue, inclined to the styles, somewhat united. *Styles* the length of the filaments, bluish, slightly cohering. *Capsule* globular but tapering to a sharp point; with 10 cells and 10 valves. *Seeds* 1 in each cell. Mr. Giddy. Stems slender, but stiff. Leaves narrow, sharp pointed. Flowers dilute purple or flesh colour or white. Ray. *Leaves* rough when stroked downwards, particularly the upper ones, but this roughness vanishes with age. *Stems* many from one root. *Petals* very entire. Capsules and calyx sharp-pointed. Our plant seems to agree with the fifth var. of the L. tenuifolium of the Sp. Plantar. though Mr. Hudson thought it a distinct species.

*Narrow-leaved Flax.* Dry meadows and pastures. [Very plentiful in Cornwall. Mr. Watt. In Devonshire. Minster in the Isle of Sheppey, and Deal. Huds.] P. June, July.

(2) *Leaves opposite.*

L. Leaves opposite, egg-spear-shaped: stem forked: bloss. pointed. cathar'ticum.

*Dicks. h. s.–E. bot.* 382–*Kniph.* 8–*Ludw.* 143–*Curt.* 151–*Walc.–Blackw.* 368–*J. B.* iii. 455. 2–*Pet.* 55. 12–*Ger. em.* 560. 5–*Park.* 1336. 10–*Barr.* 1165. 1.

Before the flowers open they hang down. LINN. Calyx edge fringed with minute glands on foot-stalks. Dr. STOKES. *Filaments* united, forming a bag which incloses the lower half of the germen.

*Purging Flax. Mill-mountain. Dwarf Wild Flax.* Dry meadows and pastures. [On St. Vincent's rocks Bristol.]

A. May—July.*

Radi'ola. L. Leaves opposite: stem forked: stamens 4, pistils 4.

*Dicks. h. s.–Fl. dan.* 178–*Kniph.* 8–*Vaill.* 4. 6–*Ray* 15. 3. *at p.* 348–*Pet.* 59. 12–*Michel.* 21–*Ger. em.* 569. 2.

Gmelin in his ed. of Syst. veg. has again made this a distinct genus, restoring its former name, Radiola. *Bloss.* white.

*All-seed Flax. Least Rupture-wort.* Moist sandy heaths.

A. August.

DRO'SERA. *Calyx* with 5 divisions: petals 5: *Caps.* 1 cell, with 5 valves at the top: *seeds* several, fixed to the sides.

rotundifo'lia. D. Stalks from the root: leaves circular. LINN. Styles 6. HUDS.

*Fl. dan.* 1028–*Sheldr.* 39–*Lob. obs.* 472. 2–*Ger. em.* 1556. 1–*Park.* 1052. 1. *b. c.*–*Pet.* 63. 10–*Blackw.* 432–*Thal.* 9. 1–*J. B.* iii. 761. 2–*Barr.* 251. 1–*Trag.* 529. 3–*Lonic.* 222. 2–*Ger.* 1366. 1.

*Leaves* and *leaf-stalks* fringed, but the latter are apt to lose the fringe as the plant grows old. *Bloss.* white.

*Round-leaved Sundew. Rosa solis. Redrot. Youthwort. Moor-grass.* Mossy bogs. [Malvern Chace on the side of the rivulet flowing from the Spa. Mr. BALLARD. Birmingham Heath.]

P. July, Aug.†

* An infusion of 2 drams or more of the dried plant is an excellent purge, and has been given with advantage in many obstinate rheumatisms. It frequently acts as a diuretic. Horses, sheep, and goats eat it.

† The whole plant is acrid, and sufficiently caustic to erode the skin: but some ladies know how to mix the juice with milk, so as to make it an innocent and safe application to remove freckles and sunburn. The juice that exsudes from it unmixed will destroy warts and corns. The plant has the same effect upon milk as the *Pinguicula vulgaris;* and like that too is supposed to occasion the rot in sheep. Is not the sour coagulated

D. Stalks from the root: leaves inversely egg-spear-shaped. LINN. Styles 6. HUDS. longifo'lia.

*Fl. dan.* 1093–*Dod.* 474. 2–*Ger. em.* 1556. 2–*Pet.* 63. 11–*Thal.* 9. 2–*J. B.* iii. 761. 1–*Barr.* 251. 2–*Lob. adv.* 454. 2.–*Park.* 1052. 1. *a.*–*Ger.* 1366. 2.

Grows with the former. Is it really a distinct species? LINN. In this and the former the styles are 6, and the valves of the capsule 3. On Brigstear Moss, near Kendal, growing to twice and thrice the size they do about London. Ray's 3 additional species probably only varieties. CURT. *bot. excurs.*—Differs from the preceding only in the shape of the leaves. *Bot. arr. ed.* i.

*Long-leaved Sundew.* Bogs with the former. LINN. [In Norfolk, frequent. Mr. WOODWARD. Knutsford Moor, Cheshire. Mr. AIKIN. Along with Dr. anglica. in Thorn Moor, Yorksh. the latter is near twice as large as the former. Mr. ROBSON.] P. July, Aug.

D. Stalks from the root: leaves oblong: styles. 8. HUDS. ang'lica.

*Dicks. h. s.–H. ox.* xv. 4, *row* 1, *figure the last*–*Pet.* 63. 12–*Park.* 1052. 2.

Has many things in common with the preceding species, but is larger, and the *capsules* have 4 valves. HUDS.

*Great Sundew.* Boggy ground in the northern counties. Devonshire, Hants, and Norfolk. [In a marsh on a heath near Holmes Chapel, Cheshire. Mr. HUNTER.] P. July, Aug.*

coagulated milk of the Syrians, called *Leban*, or *Leven*, at first prepared with some plant of this kind? See *Russel's nat. hist. of Aleppo.*

The name, SUNDEW, seems to be derived from a very striking circumstance in the appearance of these plants; the leaves are fringed with hairs, supporting small drops or globules of a pellucid liquor like dew, which continue even in the hottest part of the day, and in the fullest exposure to the sun. Perhaps the acrimony of the plant resides in this secreted liquor.

* Few persons can have observed the DROSERA in its native bogs, without seeing some of the leaves doubled up; but the cause of this, I believe, was first ascertained in this kingdom, by the attention and ingenuity of my friend, Mr. Whately, now a surgeon in London. In the month of August, 1780, that gentleman being upon a visit in Derbyshire, and gathering some specimens of the Drosera, examined some of these folded leaves, and finding a dead insect in each, was prompted to irritate the upper surface of other leaves, by touching them with a pin. The effect was as he expected, a sudden contraction of the leaf upon the pin. He communicated this curious fact to me; and though the experiment has since failed in my hands, I am satisfied he saw what he described. His friend, Mr. Gardom, a Derbyshire botanist, who accompanied him at the moment of this discovery, has since written me the following account:

"In August, 1780, examining the Drosera in company with Mr. Whately, on his inspecting some of the contracted leaves, we observed a small

SIBBA'LDIA. *Cal.* 10-cleft: *petals* 5, fixed to the calyx: *styles* from the sides of the germen: *seeds* 5, naked.

procumbens. S. Leafits with 3 teeth.

*Dicks. h. s.–Fl. dan.* 32–*Penn. voy.* ii. 5, *at p.* 43–*Pluk.* 212. 3–*Pet.* 41. 7.

small insect to fly very closely imprisoned therein, which occasioned some astonishment, to me at least, how it happened to get into that confined situation. Afterwards, on Mr. Whately's centrically pressing with a pin other leaves, yet in their natural and expanded form, we observed a remarkable sudden and elastic spring of the leaves, so as to become inverted upwards, and as it were encircling the pin, which evidently shewed the method by which the fly came into its embarrassing situation. This experiment was renewed repeatedly, and with the same effect, so that Mr. Whately and myself are both certain of the fact."

Two or three years after Mr. Whately had sent me an account of his discovery, I was much pleased to find the following account of the Drosera in a German author, which, though it differs in some respects from the observations of Mr. Whately and Mr. Gardom, yet upon the whole it tends further to illustrate the singular properties of these curious plants:

"July, 1779. *Dror. rotundifolia* and *D. longifolia*.—I remarked that many leaves were folded together from the point towards the base, and that all the hairs were bent like a bow, but there was no apparent change on the leaf-stalk. Upon opening these leaves I found in each a dead insect. Hence I imagined that this plant, which has some resemblance to the Dionæa muscipula, might also have a similar moving power.

"With a pair of plyers I placed an ant upon the middle of a leaf of the D. rotundifolia, but so as not to disturb the plant. The ant endeavoured to escape, but was held fast by the clammy juice at the points of the hairs, which was drawn out by its feet into fine threads. In some minutes the short hairs on the disk of the leaf began to bend, then the long hairs, and laid themselves upon the insect. After a while the leaf began to bend, and in some hours the end of the leaf was so bent inwards as to touch the base. The ant died in 15 minutes, which was before all the hairs had bent themselves. On repeating this experiment, I found the effects to follow sooner or later, according to the state of the weather. At 11 in the morning, a small fly placed in the centre of a leaf, died sooner than the ant had done, the hairs bent themselves as before, and at 5 in the evening the leaf was bent together, and held the fly shut up. The same experiment being made on the D. longifolia, the same effects followed, but more rapidly. I observed, that in sultry weather, and hot sunshine, when the drops of juice upon the points of the hairs are largest, the experiment succeeds best. If the insect be a small one, sometimes only one edge of the leaf is folded up; hence it should seem necessary that the insect should stir all the hairs of the leaf."—Roth. Beytrog. p. 64.

These accounts will, I hope, occasion numerous observations to be made upon this British fly-trap, which so nearly approaches in its wonderful properties to the Dionæ muscipula, or Venus Fly-trap, a native of the bogs of Carolina. It is natural to enquire whether this destruction of insects be not necessary to the welfare of the plant? It is obvious that the experiments should be made upon well-grown vigorous plants in a fine day, as then the drops of adhesive liquor at the ends of the hairs are always the largest.

It may be useful to remark, that these plants are not to be found without a pretty close inspection of the bogs they grow in, as they are much covered by, and entangled with, moss.

*Root* woody. *Stems* trailing, covered with the remains of the dead leaf-stalks. *Leaf-stalks* slender, below oblong, membranaceous, embracing the stems. *Leaves* 5-fingered. *Leaflets* inversely egg-shaped, but somewhat lopped at the end, beset on each side with soft hairs; teeth somewhat pointed. *Bloss.* yellow, smaller than the calyx. *Pistils* sometimes 10, and 5 in the same plant. In what respects it differs from the *Potentilla* may be seen by comparing the descriptions of the two genera. LINN. *Leaves* entire at the edges, lopped and 3-toothed at the end. When cultivated, the stamens are often 7, or more, the germens 10; seeds 10; fixed to a dry hairy receptacle.

*Procumbent Silver-weed.* Mountains of Scotland. [North side of Ben Lomond, three-fourths up the mountain, plentiful. On Ben Mor, sparingly. Mr. BROWN.] P. July, Aug.

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## POLYGYNIA.

MYOSU'RUS. *Cal.* 5 leaves, united at the base, deciduous: *nectaries* 5, like petals; awl-shaped: *seeds* numerous, coated, pendent.

M. min'imus.

*E. bot.* 435–*Kniph.* 5–*Curt.* 251–*Fl. dan.* 406–*Mill. illustr.* –*Dod.* 112. 1–*Lob. obs.* 242. 1–*Ger. em.* 426. 4–*Park.* 500–*J. B.* iii. 512–*Pet.* 39. 7–*Ger.* 345. 4–*Lonic.* ii. 18. 1.

*Stam.* varying from 4 to 10 or 20. LYONS. GMEL. *Leaves* sometimes hairy. HUDS. From 2 to 4 inches high. *Stalk* simple. *Leaves* narrow, strap-shaped. *Flowers* yellowish green, terminating. *Receptacle* of the seeds very long, nearly cylindrical, like the tail of a mouse.

*Little Mouse-tail.* Cornfields, meadows and pastures, in a gravelly soil. [At Lahenham. Mr. CROWE.—Near Derby. Mr. WHATELY.—Malvern Chace, Worcestersh. Mr. BALLARD.] —The whole plant is acrid. A. May, June.

## CLASS VI.

# HEXANDRIA.

## MONOGYNIA.

(1) *Flowers with a Cup and a Blossom.*

FRANKE'NIA. *Bloss.* 5 petals: *Cal.* 1 leaf; beneath: *Capsule* 1-celled; many-seeded.

BER'BERIS. *Bloss.* 6 petals: *Cal.* 6 leaves: beneath: *Berry* 2-seeded.

[Hottonia palustris. Anthericum calyculatum. Lythrum hyssopifolium. Peplis Portula.]

(2) *Flowers with a Sheath, or Husk.*

LEUCO'JUM. *Bloss.* superior; of 6 petals; bell-shaped; *Stam.* equal.

GALAN'THUS. *Bloss.* superior; of 6 petals; 3 inner petals shorter, and notched at the end.

NARCIS'SUS. *Bloss.* superior; of 6 petals. *Nectary* bell-shaped; surrounding the stamens.

AL'LIUM. *Bloss.* beneath; of 6 petals: *Petals* egg-shaped; sitting.

(3) *Flowers naked.*

CONVALLA'RIA. *Bloss.* beneath; 6-cleft; *Berry* 3-seeded.

HYACYN'THUS. *Bloss.* beneath; 6-cleft: *Germen* with 3 nectariferous pores at the top.* (Segments of bloss. rolled back.)

ANTHE'RICUM. *Bloss.* beneath: of 6 petals; flat.

NARTHE'CIUM, *Bloss.* 6 petals: *Style* none: *Seeds* with a tail at each end.

ORNITHO'GALUM. *Bloss.* beneath; of 6 petals: *Filaments* every other broader at the base.

SCIL'LA. *Bloss.* beneath; of 6 petals; deciduous: *Filaments* thread-shaped.

* I never could observe these pores in the English species.

ASPA'RAGUS. *Bloss.* beneath; of 6 petals: *Berry* 6-seeded.

FRITILLA'RIA. *Bloss.* beneath; of 6 petals; egg-shaped; with a nectariferous hollow in the base of each.

TU'LIPA. *Bloss.* beneath; of 6 petals; bell-shaped: *Style* none.

[Juncus. Polygonum Hydropiper.]

(4) *Flowers without Petals.*

TA'MUS. Flowers M. and F. on distinct plants. *Calyx* with 6 divisions.

F. *Style* 3-cleft: *Berry* 3-celled; beneath; *Seeds* 2.

A'CORUS. *Spike-stalk* many-flowered: *Caps.* 1-celled.

JUN'CUS. *Calyx* 6-leaved: *Caps.* 1-celled.

PE'PLIS. *Calyx* 12-cleft: *Caps.* 2-celled.

## DIGYNIA.

[Rumex digynus. Polygonum persicaria, & Hydropiper. Agrimonia Eupatoria. Scleranthus annuus. Quercus.]

## TRIGYNIA.

CO'LCHICUM. *Calyx* a sheath: *Bloss.* like 6 petals.

TRIG'LOCHIN. *Calyx* 3-leaved: *Bloss.* 3 petals: *Caps.* opening at the base.

RU'MEX. *Calyx* 3-leaved: *Bloss.* 3 petals: *Seed* 1; 3-cornered.

TOFIEL'DIA. *Calyx* none: *Bloss.* 6 petals: *Caps.* 3-celled; 6 valved.

[Anthericum calyculatum. Drosera rotundifolia, and longifolia. Polygonum viviparum. Quercus.]

## HEXAGYNIA.

ARISTOLO'CHIA. *Calyx* none: *Bloss.* 1 petal; tongue-shaped; entire: *Caps.* 6-celled; beneath.

[Alisma Damasonium.]

## POLYGYNIA.

ALIS'MA. *Cal.* 3-leaves: *Bloss.* 3 petals: *S. Vess.* several.

[Triglochin maritimum.]

## MONOGYNIA.

GALAN'THUS. Petals 3, concave: *nectary* 3 smaller petals notched at the end: *summit* undivided.

nivalis. G.

*Dicks. h. s.–Jacq. austr.* 313–*E. bot.* 19–*Kniph.* 1–*Walc.–Clus.* i. 169. 1–*Dod.* 230. 1–*Lob. obs.* 64. 3–*Ger. em.* 147–*Park. par.* 107, *fig. between* 6, 7, *and* 9–*Ger* 120. 1–*Matth.* 1245.

*Root* bulbous. LINN. *Bloss.* white, with 9 semitransparent streaks on each petal. Nectary white, with green streaks and a green border on the outside.

*Common Snowdrop. Fair Maids of February.* Orchards, meadows, sides of hedges. [At the foot of Malvern Hills, on the right of the road running below the Camp. Mr. BALLARD. Where no traces of any buildings or gardens are to be found. Near Cirencester, Gloucestershire. Mr. ARROWSMITH.—Banks of the Tees, about Blackwell and Conniscliffe, in situations which do not admit of its being the outcast of gardens. Mr. ROBSON.] P. Feb. March.

LEUCO'JUM. *Bloss.* bell-shaped, with 6 divisions, thickest at the ends: *summit* undivided.

Æsti'vum. L. Sheath many-flowered: style club-shaped.

*Curt.–E. bot.* 621–*Jacq. austr.* 203–*Renalm.* 100–*Clus.* i. 170–*Cam. epit.* 230. 3–*Ger. em.* 148. 4–*Lob. ic.* 122. 2–*Dod.* 230. 3.

About a foot high. *Leaves* ¼ inch broad, strap-shaped, keeled at the base, as tall as the stalk. Flowers white, streaked, with a green blotch near the point of each petal.

We are indebted to Mr. CURTIS for this addition to the British flora. He found it about half a mile below Greenwich, by the side of the Thames; it has also, he says, been found on the opposite shore on the Isle of Dogs. [In a small island, in the river, about 3 miles south of Kendal, on the dam of the gunpowder mill. Mr. GOUGH.] P. May.

NARCIS'SUS. *Bloss.* superior, of 6 equal petals: *nectary* of 1 leaf, surrounding the stamens, mostly funnel-shaped.

N. Sheath 1-flowered: nectary wheel-shaped, very short, skin-like, finely scolloped. poet'icus.

*E. bot.* 275–*Kniph.* 7, *the* 1*st fig.*–*Dod.* 223. 1.

*Leaves* rounded on the keel, reflected at the edge. *Flower* solitary, pure white; nectary edged with crimson. E. bot.

Sandy heathy places. On a rabbit warren at Shorne, between Gravesend and Rochester. At Wood Bastwick, and other parts of Norfolk. P. May.

N. Sheath 2-flowered: nectary wheel-shaped, very short, skin-like, finely scolloped: leaves acute on the keel, the edges turned inwards. E. Bot. biflo'rus.

*E. bot.* 276–*J. B.* ii. 604. 1–*Lob. ic.* 114. 1–*Dod.* 223. 2–*Clus.* i. 156–*Ger.* 110. 6.

*Flowers* mostly 2, sometimes 1, and seldom more than 3 on a stalk, larger than any that bear many flowers upon a stalk, of a sweet, but cloying scent. *Bloss.* pale whitish cream colour. *Nect.* pale yellow. Park. Edged with white.

*Pale Daffodil.* Meadows and hedges but rather rare. Huds. —Fields and sides of woods in the west of England. Ger.—And at a distance from any house. Ray.—Near Hornsey Church. Sher. in R. Syn.—At Bellow Hill, near Whitchurch, Cheshire. Mr. Vernon.—Several places near Harefield. Blackstone, 58. —[Near Hallifax. Mr. Wood.—In fields near Yardley-wood pool, Worcestershire, together with N. Pseudo-Narcissus, &c.] P. May.

N. Sheath 1-flowered: nectary bell-shaped, upright, curled; as long as the petals: petals egg-shaped. Pseudo-Narcissus.

*E. Bot.* 17–*Tourn.* 185. *H.*–*Dod.* 227. 1–*Lob. obs.* 61. 1–*Ger. em.* 133. 2–*Pet.* 67. 9–*Swert.* i. 21. 3–*J. B.* ii. 592. 2–*Trag.* 757–*Ger.* 115. 2.

*Stalk* 2-edged. *Petals* egg-spear-shaped, straw-coloured. *Nect.* throughout of a full yellow; the rim a little plaited and snipt.

*Common Daffodil.* Woods, meadows, and sides of hedges. In woods near Erith, Kent. [Norfolk. Mr. Woodw.—And in orchards. Hanley Castle, Worcestershire. Mr. Ballard.—Covers almost a whole field beyond Erdington, on the road from Birmingham to Sutton. Abundant in fields near Yardley-wood pool, Worcestershire. Madely, Shropshire.] P. March. May.

AL'LIUM: *Bloss.* 6 petals, expanding: *sheath* dry and skin-like, many-flowered: umbel crowded: *caps.* superior, 3-celled.

(1) *Stem-leaves flat; umbel bearing capsules.*

Ampelo'-prasum. A. Umbel globular: stamens 3-pointed: petals rough on the keel.

*Clus.* i. 190. 1–*Dod.* 690. 1–*Lob. obs.* 79. 1–*Ger. em.* 180. 2. *Park.* 872. 3–*J. B.* ii. 558.

Filaments 3-pointed and single pointed alternately. Keel of the petals more or less serrated. *Bloss.* pale purple. *Round-headed Garlic.* Isle of Holmes in the Severn Sea. P. July.*

(2) *Stem-leaves flat; umbel bearing bulbs.*

arena'rium. A. Umbel sheath pointless: stamens 3-pointed: leaf-sheaths cylindrical.

*Fl. dan.* 290–*Clus.* i. 193–*Ger. em.* 187. 4–*Park.* 873. 5–*J. B.* ii. 560–*Rupp. jen. ab. Hall.* 2. *Mr. Woodward.*

*Bulbs* and *blossoms* blue. *Stamens* a little longer than the blossom. *Leaves* narrow, entire at the edge. LINN. Leaf-sheaths strongly keeled. Mr. WOOD. *Stem* 2 to 5 feet high. *Leaves* 3 or 4, the lower ones quickly withering, broad, edges hairy, or rather finely toothed, but the teeth not discernible without a glass. *Bulbs* numerous, deep purple. *Flowers* a few, on short fruit-stalks, small, purple, marked with a deeper line. WOODWARD.

*Sand Garlic.* Mountains of Westmoreland. Santine's meadow, Castle Howard. TEESDALE.—[Sir James Lowther's Woods, by Lowther, Westmoreland, and pastures adjacent. Mr. WOODWARD.—About Thorpe-arch, Yorkshire, plentiful. Mr. WOOD.—At Pool Bridge, in Furness Fells. Mr. JACKSON.] P. July, Aug.

carina'tum. A. Umbel sheath very long: filaments awl-shaped.

*Hall. de All.* 2. 2. *in opusc. at p.* 392–*Fuchs.* 738–*Trag.* 748. 3–*Lonic.* 195. 1–*Clus.* i. 193. 2–*Ger. em.* 187. 5–*H. ox.* iv. 14. 5–*Swert. i.* 60. 5–*Park. par.* 143. 3–*Lob. ic.* 156. 1.

*Root* scentless. *Stem* to 4 feet high when cultivated. *Leaves* a foot long, not ½ inch broad. Sheath-leaves 2, awl-shaped, unequal. *Umbel* of few flowers, but many bulbs. *Bloss.* dull brown yellow, often changing to purple. The plant has but little of the Garlic smell. HALLER.

*Mountain Garlic.* Rocks, meadows, pastures. Near Longsledale, Westmoreland. Near Ramsgate. Between Deal and

* This is eaten along with other pot-herbs. It communicates its flavour to the milk and butter of cows that eat it.

Sandwich. [Sea-mew Craggs, at the head of Winandermere. Mr. Gough.] P. June, July.

(3) *Leaves round; umbel bearing bulbs.*

A. Filaments 3-pointed. vinea'le.

*Dod.* 683. 1–*Ger. em.* 179. 1–*Pet.* 66. 1–*Park.* 871. 1–*Fuchs.* 737–*Lonic.* 196. 1–*Trag.* 748.

*Bulbs* tapering, bowed back, often running out into long hair-like points, compacted into a close head. *Bloss.* small, violet. *Filaments* with 2 long bristles projecting beyond the flower. Linn. *Stem* about 2 feet high. *Leaves* smooth, hollow, slender, very long. *Umbel Sheath* of 1 leaf, broad at the base, ending in an awl-shaped point, about an inch long, scored with green lines. *Bulbs* numerous, white. *Blossoms* few, small. Mr. Woodward.

*Crow Garlic.* Meadows and pastures. [Near Norwich. Mr. Crowe.—Huntingdonshire and Derbyshire. Mr. Woodward.] P. June.*

Var. 1. With a double head of bulbs.

*Lob. obs.* 78. 2–*Park.* 871. *f.* 3–*H. ox.* iv. 14. 4.

Near Worcester. Stokes.

A. Filaments undivided: leaves semi-cylindrical, rough, furrowed underneath.—(Leaves not rough.) olera'ceum.

*E. bot.* 488–*Hall. de All.* 1. 2. *in opusc. p.* 386–*Clus.* i. 194. 1–*Ger. em.* 188. 6–*H. ox.* iv. 14. 2–*J. B.* ii. 561. 1.

*Root* a solid bulb. *Stem* 2 or 3 feet high, upright, or only a little bent towards the top, smooth, not scored, solid. *Leaves* hollow. *Bulbs* egg-shaped, forming a roundish knob; from between these arise several thread-shaped fruit-stalks, each supporting a single flower, which is drooping; cylindrical, but somewhat bell-shaped *Bloss.* whitish green, with 3 dark purple streaks on each petal. Very minute white dots, hardly visible to the naked eye, are scattered over the whole plant. Linn. *Leaves* and *leaf-stalks* deeply furrowed. *Bulbs* numerous *Fruit-stalks*, some upright. *Bloss.* pale, with purple lines. *Germen* prism-shaped, 6-angled. *Style* slender, longer than the blossom. Excepting that the leaves can hardly be called rough, it corresponds very exactly with A. *oleraceum.* Mr. Woodward. *Stamens* shorter than the petals.

*Wild Garlic.* Meadows, pastures, and amongst corn. [Baydale, near Darlington. Mr. Robson.] P. July.†

* The young shoots are eaten in sallads, or boiled as a pot-herb.

† The tender leaves are very commonly boiled in soups, or fried with other herbs.—Cows, goats, sheep, and swine eat it.

(a) *Leaves from the root: stalk naked.*

ursi'num. A. Stalk 3-square: leaves spear-shaped, on leaf-stalks: umbel flat topped.

*Dicks. h. s.–E. bot.* 122–*Fl. dan.* 757–*Fuchs.* 739–*J. B.* ii. 566. 1.–*Trag.* 748. 2–*Walc.*–*Matth.* 560–*Dod.* 683. 2–*Lob. obs.* 80. 2–*Ger. em.* 179. 2–*Ger.* 141. 2–*Pet.* 66. 8–*H. ox.* iv. 15. 15.

*Stalk* below, semi-cylindrical. RETZ. *Flowers* large, numerous, white.

*Ramson Garlic. Ramsons.* Woods, hedges, and dry meadows. [Several meadows near Penn's mill at Erdington, Warwickshire, abound so much with this plant as to be called, from that circumstance, "the Garlick Meadows."] P. May.*

Schœno'prasum. A. Leaves cylindrical, awl thread-shaped, as long as the stalk.

*Fuchs.* 635–*Fl. dan.* 971–*Trag.* 742. 2–*Lonic.* i. 194. 2–*Dod.* 689–*Kniph.* 8–*Lob. obs.* 77. 1–*Ger. em.* 177. 1–*Ger.* 139. 1–*H. ox.* iv. 14. *row* 1. 4–*Matth.* 550–*Dod.* 689. 2–*Lob. obs.* 78. 1.

*Chived Garlic.* Meadows and pastures. By Fast-Castle, on the borders of Berwickshire, and in Westmoreland. [Carmel Fell, in a small rivulet called Chivey Syke. Mr JACKSON.—Meadows near Kirby moor side, Yorkshire. Mr. FLINTOFF.] P. June.

FRITILLA'RIA. *Bloss.* with 6 petals or 6 divisions, bell-shaped: *nectary* a cavity above each claw: *stam.* the length of the blossom: *summit* 3-cleft: *caps.* superior, 3-celled.

Melea'gris. F. All the leaves alternate: stem 1-flowered.

*Dicks. h. s.–E. bot.* 622–*Fl. dan.* 972–*Curt.* 218–*Walc.*–*Jacq. austr.* v. *app.* 32–*Kniph.* 6–*Renealm.* 146–*Clus.* i. 153. 1–*Ger. em.* 149. 1–*Ger.* 122. 1–*Clus.* i. 152–*Dod.* 233. 2–*Ger. em.* 149. 2–*Ger.* 122. 2–*Park. par.* 41. 2–*Swert.* i. 7. 4.

*Root* bulbous, solid, small for the size of the plant, throwing out numerous fibres beneath, and increasing by off-sets. *Stem*

* An infusion in brandy is esteemed a good remedy for the gravel. *Penn. Tour*, 1772, p. 175.—Other plants growing near it do not flourish. Cows eat it; but it communicates its flavour to the milk and butter; so as to be very offensive to many people in the spring.

from the side of the root, 12 to 18 inches high, cylindrical, smooth, bending at the top into an elegant arch. *Leaves* 3 to 5, short, grasslike, half embracing the stem, alternate, distinct. *Flower* drooping. *Petals* oval, the 3 outer bulging at the base, the 3 inner flat, of a dull red, chequered with a deeper colour, without any mixture of green or yellow. Woodw. Nectary a fleshy glandular substance connecting the stamens to the petals.

*Fritillary. Chequered Daffodil*, or *Tulip. Snakes-head. Guinea-hen-flower.* Meadows and pastures. Mawde Fields, near Rislip Common, Middlesex; near Bury, Enfield; and in the meadows between Mortlake and Kew. [Between Laxfield and Stirrup-street, Suff. Mr. Woodward.—In a meadow near Blymhill, Staffordshire, plentifully. Mr. Dickenson.—Near Leicester. Dr. Arnold.] P. April, May.

Var. 2. White flowered.

In great abundance in a meadow on the right hand side of the road leading from Wolesely bridge to Stafford, not ¼ of a mile from the bridge. 7th May, 1787.

## TU'LIPA. *Bloss.* 6 petals: bell-shaped: *style* none: *caps.* superior, 3-celled.

**T.** Flower rather drooping: leaves spear-shaped: stamens hairy above the base. **silves'tris.**

*E. bot.* 63.—*Lob. hist.* 63. 2—*ib. ic.* 124. 2—*Clus. hist.* 151. 2—*Ger. em.* 133. 1—*Park.* 1342. 2—*Fl. dan.* 375.

*Bloss.* yellow, sweet scented. *Petals* spear-shaped, acute; outer ones greenish, with 1 or 2 transverse wrinkles at the base: inner ones dull yellow, with a green keel, and the edges hairy towards the bottom. Filaments very slender at the base, thicker just above, and surrounded with a fringe of white hairs, under which is found honey. Anthers and Pollen yellow. *Summit* blunt, neither compressed nor dilated. Linn.

In old Chalkpits in Suffolk and Norfolk; see E. bot. 63, where it is first adopted as a naturalized plant. P. April.

## ORNITHO'GALUM. *Bloss.* 6 petals, upright, permanent, above the middle expanding: *filaments*, the alternate ones dilated at the base: *caps.* superior; 3-celled.

**O.** Stalk angular, 2-leaved: fruit-stalks in an unbranched umbel. **lu'teum.**

*E. bot.* 21—*Walc.*—*Knipb.* 1—*Clus.* i. 188. 2—*Dod.* 222—*Lob. obs.* 72. 3—*Ger. em.* 165. 2—*Pet.* 66. 12—*Fl. dan.* 378—

*Fuchs.* 169–*J. B.* ii. 622. 1–*Ger.* 132. 2–*Lonic.* 193. 1–*H. ox.* iv. 13. 12.–*Swert.* i. 57. 3–*Park. par.* 137. 7.

*Root-leaf* generally single, longer than the stem. *Stem-leaves* sometimes 5 or 4, unequal, 1 much larger. *Fruit-stalk* sometimes solitary. *Petals* in 2 series, the inner greenish yellow, the outer green. Mr. WOODWARD. *Stem* from 4 to 6 inches high. *Leaves* fringed with fine white hairs. *Spokes* of the umbel from 3 to 7, each supporting only 1 flower. Mr. ROBSON.

*Yellow Bethlem Star.* Moist sandy places. Woods on the banks of the Tees near Greta Bridge, and Bignal, Yorkshire. *R. Syn.* Mr. ROBSON, and Rev. Mr. ZOUCH. Near Doncaster and Kendal. [Under Malham Cove. Mr. WOOD. In a meadow adjoining to the Copper Mills, Derby. Mr. WHATELY.] P. April.*

**pyrena'icum.** O. Bunch very long: filaments spear-shaped: fruit-stalks when in flower expanding, equal, but afterwards approaching the stalk.

*E. bot.* 499–*Jacq. austr.* 103–*Clus.* i. 187. 1–*Dod.* 209. 1–*Lob. obs.* 47. 3–*Ger. em.* 97–*Ger.* 89–*J. B.* ii. 627. 1–*Park. par.* 137. 5.

*Stalk* 1½ or 2 feet high. *Fruit-stalks* slender. *Flower-scales* membranaceous at the base, broad, and half embracing the stalk, upwards awl-shaped. *Petals* narrow, expanding, pale yellow within, green without, with whitish margins. Mr. WOODWARD.

*Spiked Bethlem Star.* Meadows and pastures. Near Ashley, between Bath and Bradford; and near Chichester. [Near Queen Charlton, Somerset, and between Bath and Warminster. Mr. SWAYNE.] P. June.

**umbella'tum.** O. Flowers forming a corymbus: outer fruit-stalks taller than the central ones.

*Jacq. austr.* 343–*E. bot.* 130–*Ger.* 132. 1–*Dod.* 221. 1–*Lob. obs.* 72. –*Ger. em.* 165. 1–*Swert.* i. 57. 4.

*Fruit-stalks* very long, broad. *Flower-scales* very large, white, membranaceous. Mr. WOODWARD. *Petals* white, with a broad green streak along under the side. *Filaments* spear-shaped, flat, fleshy; every other broader. *Germen* with 6 blunt angles.

*Common Bethlem Star.* Woods, meadows, and pastures in Norfolk. [Plentiful in a field near Knaresborough, Yorkshire. Mr. ROBSON.] P. April, May.

* The bulbous roots of all the species are nutritious and wholesome, and those of this species have been employed for food in a scarcity of provisions. Horses, goats, and sheep eat it. Swine are not fond of it. Cows refuse it.

SCIL'LA. *Bloss.* 6 petals, expanding, deciduous: *Filaments* thread-shaped.

S. autumna'lis. Leaves strap-shaped, narrow: flowers in a spike-like corymbus: fruit-stalks naked, ascending, about as long as the flower.

*Curt.–E. bot.* 78–*Clus.* i. 185. 2–*Dod.* 219. 1–*Lob. obs.* 53. 3 –*Ger. em.* 110. 1–*Ger.* 98. 4.

*Root* bulbous, coated. *Leaves* numerous, much shorter than the stalks. Mr. WOODWARD. Flowers rather forming a bunch than a corymbus; blueish purple.

*Autumnal Squill.* Dry pastures. St. Vincent's Rock, near Bristol; Lizard Point, Cornwall; Black Heath; near Ditton, on Moulsey Hurst, over against Hampton Court. [Common, near Chace Water Mine, Cornwall. Mr. WATT.] P. Aug. Sept.

S. bifo'lia. Root solid: flowers nearly upright, without floral leaves: root-leaves 2, spear-shaped.

*Jacq. austr.* 117–*E. bot.* 24–*Clus.* 184. 3–*Dod.* 219–*Fuchs.* 837–*Bauh. hist.* ii. 579. 2. 3–*Pet.* 67. 5.

Leaves 2, rarely 3. Flowers in a bunch, mostly pointing one way. *Bloss.* blue.

This is introduced in English bot. on the authority of Buddle's Herbarium in the British Museum; but no particular place of growth is assigned. Jacquin tells us that it is found in islands of the Danube, and in woods upon hills, flowering in March. P.

S. ver'na. Bunch of few flowers, furnished with floral leaves: blossoms bell-shaped: leaves from the root, strap-shaped, channelled: bulb-coated.

*Dicks. h. s.–Fl. dan.* 568–*E. bot.* 23.

In its wild state the root-leaves are seldom more than 2, and the flowers from 4 to 6. Floral leaves longer than the fruit-stalks. *Bloss.* blue.

*Vernal Squill.* Meadows and pastures. Cliffs on the sea shore in Anglesea and Wales; about St. Ive's, and other places in Cornwall. I have received specimens of it under the title of *S. bifolia*, but that species is not a native of these islands. HUDS. Gloddaeth, Caernarvonshire. [Cliffs on the Isle of Man. Mr. HALL.—Near Redruth, Cornwall. Mrs. WATT. Near Penzance.] P. May, June.

ANTHE'RICUM. *Bloss.* 6 petals, expanding, *caps.* oblong, superior, 3-celled.

sero'tinum. A. Leaves flattish above, convex underneath: stalk with 1 to 4 flowers: upper floral leaves decurrent, bent inwards.

*Jacq. austr. app.* 38–*E. bot.* 798–*Ray* 17. 1. *at p.* 474–*J. B.* ii. 665. 1.

*Root* oblong, covered with scales, the remains of dead leaves. *Stalk* with 3 or 4 sheathing floral leaves, spear-shaped, very minute, alternate. No flower sheath. *Petals* with tawney lines and yellow claws. Filaments not woolly. LINN. *Bloss.* permanent.

I am indebted to J. W. GRIFFITH, Esq. of Garn near Denbigh, for the above specific character, and also for the following description of this rare and almost inaccessible species.

Plant from 4 to 8 inches high. *Root* a club-shaped, bent bulb, covered with white laminated membranaceous scales. *Leaves* 2, strap-awl-shaped, very slender, bending downwards, often longer than the stalk. *Stalk* with 3 or 4 floral leaves, spear-awl-shaped, the upper ones decurrent, bent inwards, the lower ones sheathing, slanting outwards. Flowers from 1 to 4, but most frequently single. *Petals* 6, oblong, expanded, permanent, veined, white within, keel dull pink with a tinge of green. *Germen* obscurely triangular: *summits* triangular, lopped.

*Mountain Saffron. Saffron Spiderwort.* On high mountains, as on Snowden, and on the mountains in the neighbourhood of Llanberrys on the west side of Trigvylchau. RAY.—On Crib y Ddeseil rocks near Lanberris, in inaccessible situations, rare; also on the most inaccessible rocks above Lynn Idwell, Caernarvonshire, very near Tull dû in the greatest abundance. HUDS.

P. June.

ossi'fragum. A. Leaves sword-shaped: filaments woolly.

*Narthecium ossifragum.* HUDS. which see.

calycula'tum. A. Leaves sword-shaped: cup 3-lobed: filaments not woolly; flowers with 3 pistils.

Remarkable as a Liliaceous plant in having a cup. In external appearance it accords so exactly with the *A. ossifragum*, that so far from removing it from that natural order, we are obliged to place them in the same genus, notwithstanding *its* 3-cornered *calyx*, the absence of a *style*, the 3 *germens*, and the naked *filaments*. LINN

Tofieldia *palustris*. HUDS. which see.

NARTHE'CIUM. *Bloss.* 6 petals, permanent: *style* none: *caps.* egg-shaped: *seeds* tapering to each end.

N. Huds. ossi'fragum.

*Dicks. h. s.–E. bot.* 535–*Fl. dan.* 42–*Clus.* i. 198. 1–*Dod.* 208. 2–*Lob. obs.* 47. 1–*Ger. em.* 95. 2–*J. B.* ii. 633. 2–*H. ox.* iv. 1. 7–*Pet.* 66. 9.

Stem ascending, cylindrical, 4 to 9 inches high. *Root-leaves* strap-spear-shaped, flat, scored; crooked *stem-leaves* lying close to the stem. *Flower-scales*, 2 to each fruit-stalk, spear-shaped, alternate, concave. *Petals* strap-spear-shaped, a little concave, greatly expanding, greenish on the outside, of a full yellow within. *Filaments* woolly, yellow. *Anthers* scarlet. Antheri-cum *ossifragum.* Linn.

*Asphodelus Lancastriæ. Ger. em.* 96. *n.* 2. *Lancashire*, or *Bastard Asphodel. Lancashire King's-spear.* Turf bogs. [Dersingham Moor, Norfolk. Mr. Crowe.—Bogs in the North, very common. Mr. Woodward. Needwood Forest. Birmingham Heath.] P. July, Aug.*

## ASPARAGUS. *Bloss.* with 6 divisions, upright: the tops of the 3 inner petals reflected: *berry* superior; 3-celled: *seeds* 2.

A. Stem herbaceous, cylindrical, upright: leaves bristle-shaped: leaf-scales solitary or in pairs: male and female flowers sometimes on distinct plants. officina'lis.

*Kniph.* 6–*Ludw.* 78–*Fl. dan.* 505–*Mill.* 55–*Sheldr.* 83–*E. bot.* 339–*Matth.* 477–*Fuchs.* 58–*Trag.* 222–*J. B.* iii. 726. 1–*Ger.* 949.*1–*Blackw.* 332–*Clus.* ii. 179–*Dod.* 703. 1–*Lob. obs.* 458–*Ger. em.* 1110. 1–*Park.* 454. 3–*par.* 501. 6–*Lonic.* 141. 2.

*Stems* herbaceous, upright, panicled. *Leaf-scales* the outer solitary, with 2 smaller ones within, from between which rise 3, and sometimes 4 and 5 strap-shaped *leaves.* This is the case in the upper part of the branches where there are no flowers, but in the lower part of the branches a small branch rises in their stead. *Fruit-stalks* in pairs, limber, bearing 1 flower, pendent, with a jointed knot. *Bloss.* bell-shaped; inner petals longer. In the cultivated varieties the male and female flowers are not on distinct plants. Linn. The flowers are either male, or female, or hermaphrodite. *Seeds* from 1 to 3. *Bloss.* yellowish green. *Berries* red.

*Common Asparagus. Sparagus*, corruptly *Sparrowgrass. Sperage.* Meadows and rocks on the sea coast. Lizard Point.

* It is believed in Sweden to be noxious to sheep, and has been supposed to soften the bones of animals that eat it, but this opinion wants confirmation. Cows and horses eat it. Sheep and swine refuse it.

Gravesend, and in the marshes below Cook's Folly, two miles from Bristol; about Harwich and Greenwich. RAY.—Isle of Portland. HUDS In the Salt Marshes below King's Weston, near Bristol, with Dr. BROUGHTON. ST. Mullion Island, near the Lizard Point.] P. July.*

CONVALLA'RIA. *Bloss.* 6-cleft: *berry* 3-celled, superior: *seeds* 2.

(1) *Blossoms bell-shaped.*

maia'lis. C. Stalk naked: semi-cylindrical, flowers spiked, nodding.

*Curt.* 302–*Abbot. Fl. Bed. p.* 76–*Ludw.* 87–*Kniph.* 10–*Blackw.* 70–*Kniph.* 1–*Matth.* 875–*Sheldr.* 25–*Fl. dan.* 854–*Ger.* 331. 2–*Pet.* 44. 7–*Park.* 251. 1–*H. ox.* xiii. 4. 1–*Ger. em.* 410. 2–*Dod.* 205. 1–*Lob. obs.* 87. 1–*Ger. em.* 410. 1–*Walc.*–*Ger.* 331. 1–*Fuchs.* 241–*J. B.* iii. 531. 3–*Trag.* 572–*Lonic.* i. 183. 2.

*Leaves* elliptical, generally 2. *Flowers* few, growing from one side. *Fruit-stalks* arched. *Flower scales,* one at the base of each fruit-stalk, spear-shaped, membranaceous. *Bloss.* contracted at the mouth; segments reflected at the edge. *Berries* red. Mr. WOODWARD. *Bloss.* white; highly fragrant. LINN.

*Lily of the Valley. May Lily. Lily Solomon's-seal.* Woods and heaths. Near Hampstead. [Castle Edendeane. Mr. STEPH. ROBSON. Common in moist woods in Craven, Yorkshire. Mr. CALEY. Woods in Norfolk. Mr. CROWE. Rowdsey Wood, Cartmel, plentifully. Mr. JACKSON.] P. May.†

(2) *Blossoms funnel-shaped.*

verticilla'ta. C. Leaves in whirls.

*E. bot.* 128–*Clus. hist.* i. 277. 1–*Lob. ic.* 805. 1–*Dod.* 345. 2–*Ger. em.* 903. 2–*Fl. dan.* 86.

Leaves strap-spear-shaped, sitting, mostly in whirls. Fruit-stalks, axillary, from 1 to 3 flowers on each. *Bloss.* yellow white, nearly cylindrical. *Berry* red when ripe; in its unripe state marbled, but never blue. Mr. BROWN.

* The young shoots of this plant, in its cultivated state, are very universally esteemed for their flavour and nutritious qualities. They impart to the urine the scent of water in which they have been boiled.—The *Sparagus Chrysomela* lives upon it.

† The flowers highly fragrant, but when dried of a narcotic scent. Reduced to powder they excite sneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterness, as well as of the purgative properties of aloes. The dose from 20 to 30 grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime. Sheep and goats eat it. Horses, cows, and swine refuse it.

[In the Den of Rechip, 4 miles N. E. of Dunkeld, Perthshire, chiefly towards the head of the Den. First discovered there by Mr. G. Don of Forfar, and not by A. Bruce, Esq. as is erroneously asserted in E. bot. Mr. BROWN.] P. Aug.

C. Leaves alternate, embracing the stem: stem 2-edged: fruit-stalks axillary, mostly 1-flowered. Polygona'tum.

*Kniph.* 3–*Ludw.* 47–*Fl. dan.* 337–*E. bot.* 280–*Woodv.* 44–*Clus.* 1. 276. 1–*Dod.* 346. 1–*Ger. em.* 904. 3–*J. B.* iii. 529. 2–*Park.* 696. 3, *fig.* 1*st.*–*H. ox.* xiii. 1. 4–*Pet.* 44. 6–*Barr.* 711. 1–*Blackw.* 251. 2–*Ger.* 756. 1.

*Flowers*, sometimes 2, on long fruit-stalks, hanging down on the side opposite to the direction of the leaf; white with a green line running down each segment; segments rather bent in. *Berries* black. WOODWARD.

*Sweet Smelling Solomon's-seal.* Fissures of rocks near Wherf, and Skipton, Yorksh. [Rocky part of Syke's Wood, near Ingleton, Yorksh. Mr. CALEY.] P. May, June.*

Var. 2. Solomon's Seal with white Hellebore leaves and a purplish stalk. RAY.

Woods on the north of the Mendip Hills. *ib.*

C. Leaves alternate, embracing the stem: stem cylindrical: fruit-stalks axillary, many-flowered. multiflo'ra.

*E. bot.* 279–*Mill.* 101. 1–*Walc.*–*Fl. dan.* 152–*Fuchs.* 585–*J. B.* iii. 529. 1–*Lonic.* i. 170. 3–*Clus.* i. 275. 2–*Dod.* 345. 1–*Lob. obs.* 368. 2–*Ger. em.* 903. 1–*Park.* 696. 3–*H. ox.* xiii. 1. *row* 3. 1–*Pet.* 44. 5–*Blackw.* 251. I. 1, 5, 7–*Trag.* 399–*Matth.* 954–*Ger.* 756, 3.

*Fruit-stalks* branched, usually with 2 flowers above, 3 lower down, frequently 4 at bottom, and in gardens more. *Flowers* smaller, and segments more pointed than in *C. Polygonatum*, white tipped with green. *Berries* when ripe, black. WOODWARD.

*Common Solomon's-seal.* Woods. Bramdean, Hampshire; Roehill, Kent; about High Wickham, Bucks. [Copse at Gorlestone, Suffolk. Mr. WIGG. Woods at Bigland Hall, Cartmel, plentiful. Mr. JACKSON. In the lane between Stockton and Stainton, Yorkshire. Mr. ROBSON.] P. May, June.†

* In a scarcity of provisions the roots have been made into bread. Sheep and goats eat it. Horses, cows, and swine refuse it

† The young shoots are eaten by the Turks as Asparagus, and the roots have been made into bread as the *C. Polygonatum*. LINN. Cows, goats, and sheep eat it.

Var. 2. *Dwarf English Solomon's-seal.* RAY. Woods in Wiltshire. *ib.*

HYACIN'THUS. *Bloss.* bell-shaped, permanent; segments rolled back: *germen* with 3 nectariferous pores at the top.

non-scrip'tus. H. Bloss. tubular-bell-shaped, with 6 divisions, segments rolled back: floral leaves in pairs.

*E. bot.* 377–*Curt.* 139–*Clus.* i. 177. 1–*Dod.* 216. 1–*Lob. obs.* 53. 2–*Ger. em.* 111. 1–*Ger.* 99. 1–*J. B.* ii. 586–*Walc.*–*Park. par.* 125. 5–*Swert.* 13. 1, 2, 3, *and* 4.

Leaves from the root, limber. Flowers pendant, fine blue. The absence of the nectariferous pores on the germen, the very deep divisions of the blossom, almost forming 6 distinct petals, and the structure of the other parts of the fructification would induce me to wish that Linnæus had arranged this plant under the Genus Scilla. The blossoms shrivelling and not falling off, and the ends of the petals being rolled back, seem to constitute the only observable differences. Flowers varying, as many blue ones are apt to do, to white or flesh colour.

*Harebell Hyacinth. English Hyacinth. Scilla nutans.* E. bot. Woods and hedges. P. May.*

A'CORUS. *Spadix* cylindrical, covered with florets: *bloss.* 6 petals, naked: *style* none: *caps.* 3-celled.

Ca'lamus. A. Floral-leaf very much longer than the spike.

*E. bot.* 356–*Fl. dan.* 1158–*Ludw.* 34–*Woodv.* 173–*Kniph.* 9–*Leers.* 13. 12–*Blackw.* 466. *Clus.* i. 231. 2–*Dod.* 249. 3–*Ger. em.* 62. 1–*Park.* 140–*J. B.* ii. 734–*H. ox.* viii. 13. 4–*C. B. th.* 626–*Dod.* 249. –*Lob. obs.* 30. 1–*Ger. em.* 62. 2–*Clus.* i. 231. 1–*Lob. obs.* 30. 2.

Spike about 3 inches long, closely studded with florets set in spiral lines. Mr. STACKHOUSE. *Root* ½ to 1 inch diameter, often 1½ foot long or more, sending out a number of long coarse fibres. The old one decays every year, but 2 young ones shoot out from the crown of it. *Stem* flatted, bordered with a leafy edge, and above the insertion of the spike expanding into a leaf. *Leaves* sword-shaped, sheathing one another, some plaited in a

* The fresh roots are poisonous. They may be converted into starch.—*Phalæna Plantaginis* lives upon it.

serpentine line. *Spike* proceeding from the edge of the leaf. *Petals* skinny, thin, crowned with a kind of horizontal hat.

*Myrtle Flag. Sweet Smelling Flag*, or *Calamus, Sweet Myrtle-grass.* Banks of rivers with a muddy bottom. R. Yare, near Norwich. Hedly in Surry, in Cheshire, near Cambridge, Hounslow Heath, near Harefield. [R. Waveney, near Bungay, Suffolk. Mr. WOODWARD.—R. Avon, near Pershore. Mr. BALLARD.—R. at Tamworth, at the bottom of M. Oldershaw's garden. Marshes near Glastonbury.] P. May, June.*

TA'MUS. Flowers male and female on different plants.

*Calyx* with 6 divisions: *bloss.* none.

Fem. *style* 3-cleft: *berry* 3-celled; beneath: *seeds* 2.

T. Leaves heart-shaped; undivided. commu'nis.

*Mill. ill.*–*Blackw.* 457–*Giseck.* 22–*E. bot.* 91–*Dod.* 401–*Lob. obs.* 344; *ic.* i. 625. 1–*Ger. em.* 871–*Park.* 178. 6–*J. B.* ii. 148–*H. ox.* i. 1. 6–*Ger.* 721. 1–*Matth.* 1285–*Gars.* 182–*Cam. epit.* 988.

Root very large. Stems twining. Leaves varying from kidney to heart, heart-spear, and triangular spear-shaped, and even to halberd-shaped. Blossoms greenish. Berries red.

*Lady-seal. Black Briony.* Thickets and hedges. P. June.†

JUN'CUS. *Husk* 2 leaves: *calyx* 6-leaved, permanent: *bloss.* none: *caps.* superior, 3-celled, 3-valved, many-seeded; or else 1-celled, and 3-seeded.

(1) *Straw naked.*

J. Straw terminated by 3 leaves and from 1 to 4 flowers. tri'fidus.

* The roots powdered might supply the place of our foreign spices. It is our only native truly aromatic plant. LINN. The powder of the root has cured agues when the Peruvian Bark has failed. The roots have a strong aromatic smell, and a warm, pungent, bitterish taste. The flavour is greatly improved by drying. They are commonly imported from the Levant, but those of our own growth are full as good. The Turks candy the roots, and think they are a preservative against contagion. Neither horses, cows, goats, sheep, or swine will eat it.

† The young shoots are good eating when dressed like asparagus. The root is acrid and stimulating. Horses will not eat this plant.

*Dicks. h. s.-Lightf.* 9. 1. *at p.* 186-*Jacq. hort.* 4. 1-*Fl. dan.* 107-*C. B. pr.* 22. 2; *th.* 185. 2-*Park.* 1195. 3-*J. B.* ii. 521. 1.

Flowers from 1 to 4: the former most common, the latter more rare. Mr. BROWN.]

*Trifid Rush.* Bogs on the summits of the Highland mountains. [On the mountains about Invercauld copiously; on those of Perthshire more sparingly. Mr. BROWN. P. June.

conglomera'tus. J. Straw stiff and straight: flowers in a lateral head; egg-shaped, blunt, 3 stamens in each.

*Fl. dan.* 1094-*E. bot.* 835-*Matth.* 1036-*Leers* 13. 1-*J. B.* ii. 520. 2-*H. ox.* viii. 10. 7-*Park.* 1191. 3.

Stamens always 3. Seeds kidney-shaped.

*Round-headed Rush.* Moist meadows and heaths. P. July, Aug. Used to make wicks for watch lights, and the pith in toys.

effu'sus. J. Straw stiff and straight: panicle lateral, loose: flowers egg-shaped, blunt, 3 stamens in each.

*Fl. dan.* 1096-*E. bot.* 836-*Leers.* 13. 2-*Dod.* 605. 2-*Lob.* 43. 2-*Ger. em.* 35. 1-*H. ox.* viii. 10. 4-*Park.* 1191. 2-*J. B.* ii. 521. 1-*C. B. th.* 182.

The loose panicle of this plant at once distinguishes it from the preceding, whose flowers form a close compact head.

*Soft Rush. Common Rush. Seaves.* Wet meadows and pastures. P. June.—Aug.*

inflex'us. J. Straw stiff, crooked and somewhat membranaceous at the end: panicle lateral, spreading; flowers egg-shaped, but tapering to a point.

*E. bot.* 665-*Fl. dan.* 1159-*Leers* 13. 3-*Ger.* 31. 2-*C. B. th.* 184-*H. ox.* viii. 10. 25-*H. ox. ib.* 13-*Dod.* 605. 3-*Lob. obs.* 43. 3-*Ger. em.* 35. 4-*Barr.* 204-*J. B.* ii. 520. 1.

Straw scored, glaucous green. *Sheath* at the base of the straw of a dark red chesnut-colour, spear-shaped but blunt at the end. Panicle bay colour, more upright and more diffuse than in the preceding. J. *effusus* β of Haller and Hudson, but certainly very distinct. J. *glaucus.* Sibth. Fl. Oxon.

*Hard Rush.* Pastures and road sides in a moist soil. P. July.

* Rushes are sometimes used to make little baskets. The pith of this and the preceding species is used instead of cotton to make the wick of candles which are called rush-lights. Horses and goats eat it.

J. Straw crooked, slender thread-shaped; panicle lateral, filifor'mis.
not branched, few-flowered.

*Smith Spicileg.* iii.–*Leers* 13. 4–*Scheuch.* 7. 11–*Pluk.* 40.8.

So slender as hardly to support itself. Panicle not always expanded. Florets about 5.

Turfy bogs on mountains. Not far from Ambleside. RAY. —[At Windermoor, in Cartmel. Mr. JACKSON.] P. Aug.

J. Straw rigid: leaves like bristles; panicle terminating; squarro'sus.
leafless.

*Fl. dan.* 430–*H. ox.* viii. 9. 13–*Park.* 1193. 2.

From 8 to 18 inches high. Root-leaves numerous, unequal in length, the longest near half the length of the straw.

*Moss Rush. Goose Corn.* Barren turfy bogs on heaths. P. June, July.*

J. Straw nearly leafless, cylindrical, sharp-pointed, pani- acu'tus.
cle terminating; involucrum 2-leaved, ending in a thorn-like point.

*Barr.* 203. 2–*C. B. pr.* 21. 2, *th.* 173–*Park.* 1193. 4–*H. ox.* viii. 10. 15.

*Panicle* crowded, close, from 2 to 3 inches long. *Involucrum*, the sheath of the *outer leaf* from 1 or 1½ to 2 inches long, terminating in a stiff pungent leaf, 1 or 1½ inch long; that of the *inner leaf* about 1 inch long, terminating in a sharp point about ½ inch long. SCHEUCH.

*Pricking large Sea-rush.* Sand Hills on the sea coast of Merionethshire. RAY.

Var. 2. Panicle not spreading, from 3 to 6 inches long, consisting of 2 principal branches, one of which is from 3 to upwards of 6 inches long, the other very short, immediately dividing into lesser branches. *Involucr.* the sheath of the *outer leaf* about 1 inch long, terminating in a very sharp pointed pungent leaf from 3 to upwards of 6 inches long; that of the *inner* about ½ inch long, ending in a finely tapering leaf from ½ to 1 inch long. SHEUCH. *Involucr.* leaves extremely rigid and sharp. Grows in tufts near 6 feet high. I am doubtful whether it be not a variety of *J. inflex.* WOODWARD.

*Park.* 1193. 7–*H. ox.* viii. 10. 14.

*Sea Hard Rush.* Salt marshes, about Maldon, Essex, and

* Horses eat it. The leaves lying close to the ground elude the stroke of the scythe. It indicates a barren soil.

west coast of Wales. [Coast of Norfolk. Mr. Crowe. Mr. Woodw. and Lancashire. Mr. Wood.] P. July, Aug.

(2) *Straws leafy.*

articula'tus. J. Leaves with knot-like joints: flowers panicled: petals blunt.

Var. 1. *aquaticus.* Linn. Leaves compressed; panicle simply branched: straw trailing.

*Fl. dan.* 1097–*Leers* 13. 6–*H. ox.* viii. 9. 2. *f.* 9, *the* 3 *right hand straws*–*C. B. pr.* 12. 1, *th.* 76. 2–*Park.* 1270. 5–*Ger. em.* 22. 9–*J. B.* ii. 521. 2–*Ger.* 12. 1.

J. *compressus.* Relh. and Sibth. who consider it as a distinct species.

Var. 2. *sylvaticus.* Linn. Leaves cylindrical: panicle branches subdivided: straw upright.

*E. bot.* 238–*H. ox.* viii. 9. 1. *f.* 8.

J. *nemorosus.* Fl. ox. Dr. Sibthorpe considers it as a distinct species.

Var. 3. Leaves like bristles; capsules much smaller. Ray.

*H. ox.* viii. 9, *row.* 2. 3.

J. *uliginosus.* Fl. ox. Sibth. Roth. fl. Germ.

In all the above the *leaves* are not so properly jointed as separated transversely by partitions, which become visible when pressed by the fingers or held against the light. Linn.

*Jointed Rush.* 1 and 2 grow in meadows, wet woods and pastures; 3 on wet and poor sandy or gravelly commons.

P. June—Aug.

Var. 4. All these varieties are liable to the attacks of insects, and in consequence to assume a peculiar appearance, producing bundles of slender leaves instead of, or intermixed with, the flowers. In this state they are represented in

*C. B. pr.* 12. 2. *and th.* 77–*H. ox.* viii. 9. 2. *f.* 9.

The insects found upon these plants have been the Chermes graminis, by Mr. James Hoy, the Acarus gymnopterorum by Dr. Stokes, and some of the Coccus tribe by Mr. Lightfoot. The diseased plants are very common in the bogs on Birmingham Heath, and also in those of the New Forest, where the soil is a gravel.

5. Husks white. Not common. Mr. Woodward.

uligino'sus. J. Straws trailing, proliferous from the heads of flowers: leaves like bristles, somewhat knotted.

*E. bot.* 801–*Fl. dan.* 817–*H. ox.* viii. 9. 4–*Scheuch.* 7. 10–*Pluk.* 32. 3.

This is now made a distinct species by Gmelin, consistent with the opinion of Haller, and Ray, and on the authority of Roth. *fl. germ.* p. 155, but I have not seen that book. The knots or rather valves of the leaves in some of my specimens are just observable, but in others they are not to be seen though carefully searched for.

The former grows in the bogs on Birmingham Heath, and I have always considered it as a variety of the J. articulatus; the latter was sent me without a habitat, and was supposed to be a viviparous var. of the J. bulbosus.

J. Straw undivided, somewhat compressed: leaves strap-shaped, channelled: panicle terminating, shorter than the floral leaf: cups and capsules blunt. bulbo'sus.

*Leers* 13. 7–*H. ox.* viii. 9. 11–*J. B.* ii. 522. 3–*Fl. dan* 431–*Barr.* 114. *and* 747. 1 *and* 2.

From 2 inches to 2 feet high. WOODWARD. Ripe capsules longer than the calyx.

*Bulbous Rush.* Wet meadows and heaths. [Sea coast. Salt water ditches, near Yarmouth. Mr. WOODWARD.] P. Aug.

J. Straw forked: flowers solitary, sitting: calyx leafits spear-shaped, sharp-pointed: capsule egg-shaped, shorter than the calyx. bufo'nius.

*Fl. dan.* 1098–*Dicks. h. s.*–*E. bot.* 802–*Leers* 13. 8–*H. ox.* viii. 9. 14–*Ger. em.* 4. 4–*Ger.* 4. 4–*Park.* 1190. 8–*Barr.* 263. 1, 2 *and* 264–*Rose* 2. 5 *and* 6, *and Pet. gaz.* 51. 7, *in its seedling state*–*Park.* 1270. 11.

It varies very much in size, from 1 to 10 inches high; and in the smaller plants the leaves are very slender, not angular but folded together. The flowers are mostly in pairs, and only 1 sitting, but in all of them the ripe capsules are brown, shining, and shorter than the calyx.

*Toad Rush.* Wet gravelly or sandy meadows and pastures, especially in places that have been overflowed in the winter, not uncommon. P. May—Aug.

J. Leaf awl-shaped: husk 2-flowered, terminating: inner floret standing on a fruit-stalk. biglu'mis.

*Fl. dan.* 120–*Amoen. acad.* ii. 3. 3.

The blunt capsules and the fruit-stalk with which the inner flower is always provided are invariable characters in this spe-

cies. Mr. Brown. From 2 to 4 inches high. Leaves few, one third the length of the straw. Outer leaf of the husk much larger than the other, and ending in a pointed substance as long as itself and standing higher than the florets.

*Two flowered Rush.* [In bogs on the top of Mal-ghyrdy, a mountain between Glenlochy and Glenlyon, and upon Ben Teskerney, both in Breadalbane. On Craig Cailleach, and on Ben Lawers, precisely in the same situations, but not quite so common as J. triglumis. Mr. Brown.] P. Aug.

triglu'mis. J. Leaves awl-shaped, hollow: husk mostly 3-flowered, terminating: florets all sitting.

*Dicks. h. s.–Fl. dan.* 132–*Lightf.* 9. 2–*Fl. lapp.* 10. 5.–*H. ox.* viii. 12. 40.

I have been favoured with specimens from J. Wynne Griffith, Esq. in which the heads contain 2, 3, and 4 flowers.

Var. 2. Bractea elongated and pointed.

Occasionally found growing with the more common var. from which it differs in no respect but in the greater length of the Bractea. Mr. Brown.

*Three-flowered Rush.* Bogs on mountains. On Trygvylchau, near Llanberrys, and Llyn y Cwn, near Snowdon: East side of Craig-Cailleach above Finlarig, Breadalbane, &c. See Lightf. p. 112. [In the ascent from Llanberris to Glyder, only in one small spot which lies between a little eminence called Bryn brâs, and a rivulet called Avon lâs. Mr. Griffith.—On Ben Lomond. Dr. Hope.—Burrowdale, near Keswick, Cumberland, and frequently with only 2 flowers. Mr. Robson.] P. June.—Aug.

pilo'sus. J. Leaves flat, hairy: corymbus branching. Linn. Flowers solitary. Huds.

*E. bot.* 736–*Curt.* 345–*Leers* 13. 10–*H. ox.* viii. 9. *row* 1. 1. *f.* 3–*Ger. em.* 19. 1–*Park.* 1184. 1–*Ger.* 17. 1–*C. B. th.* 101.

Lower branches of the panicle bent downwards.

*Hairy Rush.* Woods, common. P. Apr. May.

max'imus. J. Leaves flat, hairy: panicle terminating, very much branched: flowers 1, 2 or 3 together.

*E. bot.* 737–*Curt.* 344–*Fl. dan.* 441–*H. ox.* viii. 9. *row* 1. 2. *f.* 4–*J. B.* ii. 403. 3.–*C. B. pr.* 15. 1, & *th.* 102–*Park.* 1185, 3–*H. ox.* viii. 9. *row* 1. *f.* 5, *between* 2 & 3.

Three or four feet high. Root-leaves ½ an inch or more in breadth. Mr. Swayne. The flowers not being solitary, but

mostly in pairs, will readily mark the difference between this and the preceding species.

*Wood Rush.* J. *sylvaticus*. Huds. Curt. E. Bot. Bot. Arr. ed. ii. Woods and hedges, near Hampstead. [Whitsell Gell, near Askrig, Yorkshire, and at the bottom of the Rye-loaf near Settle. Curt. Witchery Hole, near Clifton upon Teme, Worcestershire. Mr. Ballard.—Common in Scotland, near rivulets and in woods. Mr. Browne.—Corby Castle, near Carlisle. Leighwood. Mr. Swayne.] P. May, June.

J. Leaves flat, somewhat hairy: spikes sitting, and on fruit-stalks. campes'tris.

*Curt.* 140–*E. bot.* 672–*Kniph.* 12–*C. B. pr.* 15. 2, *and th.* 103–*H. ox.* viii. 9. *row* 1. 4–*Leers* 13. 5–*J. B.* ii. 493. 3 –*Ger. em.* 17. 2–*Park.* 1185. 6–*Ger.* 16. 2.

Spikes 3 or 4, the central one sitting, the others on fruit-stalks of unequal lengths.

*Field Rush.* Pastures, meadows, and heaths, common. P. April. May.

J. Panicle larger, more compact than the J. campestris: spikes globular: straw and leaves as long again. Ray. li'niger.

*H. ox.* viii. 9. *row* 1. *f.* 1, *the left hand corner.*–*Ger.* 16. 1– *C. B. th.* 104–*Park.* 1186–*J. B.* ii. 468. 2.

This uncommon species (Var. 2. J. campestris of 3d edition) is much more hairy than the preceding, and at the base of the stem the hairiness looks as if some dressed flax adhered to the plant, whence I have named it *liniger*. The leaves are ¼ of an inch broad, but in the preceding not more than half that breadth. The flowers are much more numerous and closely compacted into globular heads, and it flowers a month later.—Mr. Caley noticed it 3 successive years bearing the same characters; he observes that J. campestris grows along with it, and attains its height, but is easily distinguished from it by its slender habit, and being destitute of the globular head.—Mr. Swayne says it flowers the latest of our leafy-stemmed rushes, and resembles the J. campestris the nearest, but still is very distinct.

*Flaxen Rush.*—Turfy bogs. [Shortwood, near Pucklechurch, Gloucestersh. flowering the latter end of June. Mr. Swayne.] P. June.

J. Leaves flat: spike bunch-like, drooping. spica'tus.

*Fl. dan.* 270–*Fl. lapp.* 10. 4.

Very nearly allied to, if not a variety of *J. campestris*. Linn.

I have seen the *J. campestris* growing with it, but they are perfectly distinct. Dr. SMITH. Five or 6 inches high. Spike terminating, pointing almost horizontally, about ½ inch long.

*Spiked Rush.* [On the very summit of Ben Lomond. Dr. J. E. SMITH and Dr. HOPE. On bare spots on mountains; often on their summits. On Ben Bourd near Invercauld; on all the mountains between Angus-shire and Dee side, and on all those of Breadalbane and Glenlochai. Mr. BROWN.]

P. July, Aug.

BER'BERIS. *Calyx* 6-leaved: petals 6, with 2 glands to the claw: *style* none: *berry* superior, 1-celled; open at the end: *seeds* 2 or 3.

vulga'ris. B. Fruit-stalks forming bunches: thorns 3 together.

*Fl. dan.* 904–*Woodv.* 234–*E. bot.* 49–*Mill.* 63–*Blackw.* 165–*Fuchs.* 547–*Trag.* 993–*Clus.* i. 120. 2–*Dod.* 750–*Lob. obs.* 599. 2–*Ger. em.* 1325–*Park.* 1559–*J. B.* i. 6. 54–*Ger.* 1144–*Lon.* i. 46. 1.

The *first leaves* inversely egg-shaped, between serrated and fringed, not jointed. *Leaf-scales* terminated on each side by a hair-like tooth. *Stem-leaves* alternate, the lowermost somewhat wing-cleft, with thorny teeth; the rest are changed into 3-forked thorns The *secondary leaves* in pairs, oblong, serrated. Between the lowermost leaves and the thorns are concealed lesser leaves. Thus, when the leaves of the present year are changed into thorns, others will succeed to take place of them in the next. Is there any instance analogous to this? LINN. *sp. pl. Leaf-scales* solitary, 3 forked, changing into thorns. *Fl. suec.* In searching for the nectaries at the base of the petals when the flower is fully expanded, if you happen to touch the filaments, though ever so slightly, the anthers immediately approach the summit and burst with an explosion. Bot. arr. ed. i.—When the anthers are thoroughly ripe, if the bottom of the filament be irritated with a pin, or a straw, the stamen rises with a sudden spring and strikes the anther against the summit of the pistil, affording a remarkable instance of one of the means used to perform the important office of impregnation. Mr. WHATELY, from Dr. SIMS. See also Phil. Tr. 1788. *Bloss.* yellow, sometimes streaked with orange. *Berries* red.

*Common Barberry. Pipperidge-bush.* Woods and hedges. On Chalk Hills. About Walden, Essex. S. May, June.*

* The leaves are gratefully acid. The flowers are offensive to the smell, when near, but at a proper distance their odour is extremely fine. The berries are so very acid that birds will not eat them, but boiled with sugar

FRANKE'NIA. *Calyx* 5-cleft, funnel-shaped: petals 5: *summit* with 3 divisions: *caps.* 1-celled, 3-valved.

F. Leaves strap-shaped, crowded, fringed at the base. lœ'vis.

*E. bot.* 205–*Michel.* 22. 1–*Lob. adv.* 180. 3–*Ger. em.* 566. 3–*Park.* 1680. 6–*Barr.* 714–*J. B.* iii. 703. 2–*Pet.* 10. 11.

A shrub with numerous branched, trailing stems. *Leaves* fleshy, egg-shaped, but the edges being rolled in they appear almost cylindrical with a groove underneath, flatted at the base. *Calyx* with 5 to 7 ribs, and as many teeth. *Petals* wedge-shaped, a little scolloped at the end. *Nectary* a fleshy scale, fixed to the base of each petal. *Style* cloven half way down into 3 segments. *Bloss.* pinky red.

*Smooth Frankwort.* Salt marshes in a muddy soil. Lovingland, near Yarmouth. Isles of Sheppey and Thanet; Essex, Sussex, and Kent, common. [Near Yarmouth. Mr. CROWE.]

P. July, Aug.

F. Leaves inversely egg-shaped, dented at the end, dusted underneath. pulverulen'ta.

*Clus.* ii. 186. 2–*Dod.* 376–*Ger. em.* 566. 2–*Zanon.* 79–*Lob. adv.* 196. 2.

*Stems* lying flat, slender, branching; knots about a finger's breadth from each other. *Leaves* 4 at a joint, hoary underneath. *Flowers* in the bosom of the leaves. MONT. in *Zanon.* *Leaves* with very short hairs underneath, edges not rolled in, on short leaf-stalks. Dr. STOKES.

sugar they form a most agreeable rob or jelly. They are used likewise as a dry sweetmeat and in sugar-plumbs. An infusion of the bark in white wine is purgative. The roots boiled in lye, dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow, with the assistance of alum.—This shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as 3 or 4 hundred yards across a field. This very extraordinary fact merits further investigation, for, though credited in France as well as in England, Mr. Broussonet assured Dr. Smith from his own observations, that it was totally void of foundation. See E. bot. p. 49. What then could have given rise to such an opinion, so confidently asserted and so widely diffused? The first information I had upon the subject, was from an excellent botanist, a scrupulous observer of nature, whose accuracy could hardly be questioned, and of whose veracity I could not entertain a doubt. The year following I examined some wheat sown round a Barberry bush in this gentleman's garden, and found the greater part of the ears abortive — Knowing a very sensible farmer in whose hedge rows the Barberry was a common plant, I enquired if he had ever observed the corn near those hedges to be any how particularly effected. His reply constitutes the first part of this paragraph.

*Dusky Frankwort.* Sea coast of Sussex between Bognor and Brighthelmstone. A. July.

PE'PLIS. *Calyx* bell-shaped, rim 12-cleft: *petals* none, or 6 fixed to the cup: *caps.* superior, 2-celled; many-seeded.

Por'tula. P. Flowers often without petals.

*Dicks. h. s.–Curt.* 288–*Vaill.* 15. 5–*Fl. dan.* 64–*Mich.* 18. 1–*Ger. em.* 614. 11–*Park.* 1260. 4–*J. B.* iii. 372. 3.

Stems numerous, creeping. Leaves inversely egg-shaped, sometimes tapering into leaf-stalks. *Petals* deciduous, very minute; both blossom and filaments pinky red.

Marshy and watery places, especially such as become dry in summer. A. July—Sept.

## TRIGYNIA.

RU'MEX. *Calyx* 3-leaved: petals 3, closing: *seed* 1, three-cornered, inclosed in the blossom.

(1) *Flowers hermaphrodite; petals entire, only* 1-*headed.*

sanguin'eus. R. Valves very entire: leaves heart-spear-shaped.

*Munt. brit.* 113. *and phyt.* 196–*Pet.* 2. 5–*J. B.* ii. 989. 1–*Blackw.* 492–*Dod.* 650. 2–*Lob. obs.* 154, *and ic.* i. 290. 1 *Ger. em.* 390–*Park.* 1226. 10–*H. ox.* v. 27. 6.

*Leaves* with red veins containing a blood-coloured juice. *Outer valve* of the flower with a large red globular grain, and sometimes the other with a small grain. It migrated from Virginia to Hampstead in England. Linn. *Blossoms* reddish. *Leaves* unequal at the base.

*Small-grained Dock Bloodwort.* Woods near Hampstead, but not frequent, and near Maidstone, Kent. B. July.

(2) *Flowers hermaphrodite; petals entire, all of them headed.*

cris'pus. R. Valves strongly veined: leaves spear-shaped, acute, waved and curled at the edge.

*Curt.* 104–*Munt. brit.* 104, *and phyt.* 190–*Ger.* 312. 4–*Pet.* 2. 2.

*Grains* on the valves very large, nearly round. Mr. Woodw. —*Root* yellow. Curt. *Beads* 1 or 3, rarely 2. Dr. Stokes.—*Leaves* strap-spear-shaped. Valves large, brown red when ripe;

beads pale when young, changing to blood red and then to brown red.

*Curled Dock.* Meadows, pastures, road sides, and cultivated ground. In almost all soils. P. June, July.*

R. Valves veinless: leaves oval-spear-shaped, uneven at the edges. acu'tus.

*Curt.* 181–*Blackw.* 491–*Kniph.* 3–*Fuchs.* 461.

The edges of the leaves, though seldom very entire, are by no means waved and curled, as in the preceding species. The valves are much smaller than in any of our other hermaphrodite species; very entire, all of them beaded. In sunny situations, both the stem and leaves are apt to get a tinge of purple red. R. *sanguineus,* var. 2. Bot. arr. ed. ii. Lapathum viride. Ray Syn. 141.

Linnæus says, that in his R. *acutus,* the valves are toothed. which is not the case with our plant, but then his Synon. accord with ours, and with the Lapathum acutum of Ray, which he quotes. We must therefore either suppose the Synon. to be wrong, or else that the teeth of the valves are uncertain things. I have purposely avoided more references to figures, that of J. B. ii. 984. 1, being a wretched reduced copy of that of Fuchsius; Pet. ii. 3. is inexpressive; Lob. ic. 284. 1. Lob. obs. 150. 2. Park. 1224. 1. Ger. em. 388. 1. Matth. 353, 1. and Dod. 648. 1. are all the same, and therefore all equally bad, nor would the subject be illustrated by quoting the mutilated representation in H. ox v. 27. 3. Lonic. i. 87. 1, is tolerable.

Woods, hedges, sides of rivers and roads, and sometimes in fields and meadows, common. P. June, July.†

R. Leaves heart-spear-shaped, bluntish: whirls of flowers distinct; beneath the floral-leaf. paludo'sus.

*E. bot.* 724–*Munt.* 194.

*Root* branching. *Stem* upright, 4 feet high, scored, branching; *branches* alternate, upright. *Root-leaves* egg-shaped, bluntish, somewhat finely notched; *stem-leaves* alternate, on leaf-stalks, somewhat finely notched, rather pointed, flat, naked, on short leaf-talks. *Leaf-scales* sheathing, membranaceous. *Flowers* in whirls, on fruit-stalks. *Whirls* generally distinct. *Valves,* the

* In Norfolk it is the pest of clover fields. Mr. Woodward.—The fresh roots bruised and made into an ointment or decoction cure the itch. The seeds have been given with advantage in the dysentery.—Cows and goats and horses refuse it.

† Cows and horses refuse it. It is infested by the *Aphis Rumicis.* Linn.—The root is used by the dyers. It gives a great variety of shades, from straw colour to a pretty fine olive, and a fine deep green to cloths which have been previously blued. Stokes.

outer with a large red grain; the rest with a small grain. Huds.

In the Bot. arr. ed. ii. this was suspected to be a var. of the R. crispus, but if it be not distinct, I now rather suppose it to be R. acutus, grown to a more than ordinary size. The valves are entire, all of them beaded, but in its younger flowering state, the bead appears only upon one or two of them. They have not the strongly veined texture of the R. crispus. In the smallness of the flowers, the distance of the whirls, and the position of the floral-leaves, it agrees with the R. acutus. The summits are fan-shaped and beautifully fringed, as they are in several of the species.

*Marsh Dock.* Marshes and banks of rivers. [Near Tamworth.] P. Aug.

Hydrolapathum. R. Leaves spear-shaped, smooth, acute, very entire, tapering at the base.

*Munt. brit.* 1–*Munt. phyt.* 202–*Pet.* 2. 1–*Ger.* 311. 1–*J. B.* ii. 1.

Veins of the leaves very strong, and nearly perpendicular to the mid-rib. *Root* white within, black without. *Stem* 5 or 6 feet high, furrowed. *Leaves* even at the base, a little toothed and waved at the edge; the *lower* ones to 18 inches long. *Leaf-stalks* semi-cylindrical, those of the lower leaves sometimes 15 inches long. *Fruit-stalks* encompassed a little below the middle with an indistinct ring, in half whirls. *Whirls* from alternate sides of the stem and branches, surrounded by a skinny sheath. *Calyx* 1 leaf, with 3 divisions; segments spear-shaped, somewhat concave. *Valves* very slightly toothed, especially towards the base; *teeth* becoming more and more evident as the seed ripens: *beads* greenish white or purplish. *Summits* flat, fringed.

This differs from the R. aquaticus of Linn. which is characterized as having valves without beads, and the leaves heart-shaped at the base. Notwithstanding this, the Synonyms are the same to both, and I suspect they may be the same plants, for in our Hydrolapathum the beads are not very obvious in its flowering state, though becoming large and conspicuous as the seed ripens. The leaf heart-shaped at the base is well represented in Blackw. 490, but the upper leaves and flowers agree with our R. Hydrolapathum.

*Water Dock.* Peat marshes, wet ditches, pools, and sides of rivers, growing generally in the water where it is shallow, and seldom but in the water. Ray. [About Clifton, Worcestersh. Mr. Ballard. St.—Tamworth, at the foot of Bowbridge, on the Coventry road.] P. July, Aug.*

* It is a medicine of considerable efficacy, both externally applied as a wash for putrid spongy gums, and internally in some species of scurvy.

In

(3) *Flowers hermaphrodite; petals toothed, only* 1 *beaded.*

R. Root-leaves fiddle-shaped. pul'cher.

*H. ox.* v. 27. 13–*Pet.* 2. 10–*J. B.* ii. 988. 3–*Till. pis.* 37. 2.

*Stem-leaves* egg-oblong, entire, not hollowed out at the sides. *Flowering branches* bowed back. *Valves* blunt at the end, the outer with a grain, and the rest with an imperfect grain. LINN. *Stem* much branched. *Branches* alternate, with a strap-spear-shaped leaf under each. WOODWARD.

*Fiddle Dock.* Rubbish, dry meadows and road sides. [In Norfolk, very common. Mr. WOODWARD.—Wick cliffs and Mangots field near Bristol. Mr. SWAYNE.—Opposite the Inn at Alliston, Gloucestershire. Mr. BAKER.] P. July, Aug.

(4) *Flowers hermaphrodite: petals toothed, all beaded.*

R. Leaves strap-shaped; flowers in distant whirls. marit'imus.

*Curt.* 163–*Lob. obs.* 151. 2. *and ic.* i. 286. 1–*Ger. em.* 389. 2–*Park.* 1225. 8–*J. B.* ii. 987. 2–*Pet.* 2. 7.

*Root* red. LINN. *Root* without of a reddish brown, within of a beautiful carmine red. *Leaves* sometimes found with red veins, like those of R. *sanguineus*. *Valves* green, with 2 or 3 fine long teeth on each side. CURT.

Road sides, and amongst rubbish. Tothill Fields, London. PLUK.—St. George's Fields, and many places about London. RAY. CURT. P. July—Sept.

R. Leaves strap-shaped: whirls crowded together, spike-like. au'reus.

*E. bot.* 725–*Kniph.* 7–*Pet.* 2. 8–*J. B.* ii. 988. 1.

I am clearly of opinion that this is a distinct species. Dr. STOKES. Stems very leafy. Mr. WOODWARD. Leaves flat and smooth. Petals each with 4 long teeth, like the fingers of an expanded hand. Whirls of flowers golden yellow, so closely crowded together as to assume the appearance of leafy spikes.

*Golden Dock.* R. *maritimus* E. bot. R. *aureus* of Petiver. *Lapathum folio acuto, flore aureo.* RAY *Syn.* 142. Seeds very small, lighter coloured than in the other species; leaves paler and narrower. RAY. Lapathum aureum. PETIVER. R. maritimus β HUDS. and Bott. arr. ed. ii.

In marshes; about Crowland, Lincolnshire; near the Trent at Swarston, Derbyshire; and between Hithe and the sea. RAY.

In rheumatic pains, and chronic diseases, owing to obstructed viscera, it is said to be useful. The powdered root is one of the best things for cleaning the teeth. The root has sometimes a reddish tinge, but soon changing to a yellowish brown when exposed to the air. The *Circulio Lapathi* is found upon the leaves.

—Sea coast, in low wet places. Solway Frith. LIGHTF.—[Severn Stoke, Worcestershire. Mr. BALLARD.—Sides of Ancott pool, near Shrewsbury. Mr. AIKIN.] P. July, Aug.

**obtusifo'lius.** R. Leaves heart-oblong, bluntish, finely notched.

*Curt.* 168–*Lob. ic.* i. 285. 1–*Ger. em.* 388. 3–*Park.* 1225. 4–*Pet.* 2. 9–*Munt. brit.* 68, *phyt* 187–*Ger.* 312. 3–*J. B.* ii. 985. 1.

*Stem-leaves* spear-shaped, pointed. Mr. WOODWARD. *Stems* about 2 feet high, furrowed, and set with short white transparent bristles. *Leaves* curled at the edge, ribs downy; the *upper* heart-strap-spear-shaped, the lower ones oval at the end. *Leaf-talks* shorter than the breadth of the leaves. *Fruit-stalk* sprinkled near the top with white shining globules. *Pedicles* surrounded near the base by an indistinct cartilaginous ring. *Calyx leaves* boat-shaped, nearly as long as the petals. *Petals* spear-shaped flat, not very evidently toothed: that with the largest grain outermost when the fruit-stalk bends downwards, and with the longest teeth; none of the teeth equal in length to the diameter of the petal.

*Broad-leaved Dock.* Amongst rubbish, farm-yards, courts, and sides of ditches. P. July, Aug.*

(5) *Flowers hermaphrodite; valves without beads.*

**digy'nus.** R. Styles 2.

*Fl. dan.* 14–*Pluk.* 252. 2–*H. ox.* v. 36. *row* 3. *f.* 3–*Pet.* 3. 4.

*Flower* cloven into 4, consisting of a *calyx* of 2 leaves, and a *blossom* of 2 petals. *Germen* compressed. *Seed* 2-edged, compressed. LINN. *Stem* naked. *Leaves* kidney-shaped, slightly and irregularly notched; on long leaf-stalks. *Valves* roundish, tinged with red, membranaceous. Mr. WOODWARD.

*Acetosa rotundifolia, &c. R. Syn.* 143. *Mountain Dock. Welsh Sorrel.* Mountains of Wales, Yorkshire, Westmoreland, Cumberland. Rocks by the sides of rivulets from the Highland mountains, and Isles of Rum and Skye. [On walls at Tortworth. Mr. BAKER. About Keswick. Mr. ROBSON.] P. May—July.

(6) *Male and female flowers on distinct plants.*

**Aceto'sa.** R. Leaves oblong arrow-shaped.

*Sheldr.* 57–*E. bot.* 127–*Blackw.* 230–*Woodv.* 69–*Park.* 742. *left hand figure*;–*Pet.* 3. 1–*Fuchs.* 464–*Trag.* 315

* Fallow Deer eat both this and the R. acutus with avidity, biting it close to the root, so that it is very rare to see a Dock growing in a park.

*-J. B.* ii. 990. 1-*Matth.* 447-*Dod.* 648. 4-*Lob. obs.* 155. 1, *ic.* i. 290. 2-*Ger. em.* 396. 1-*Park.* 742. *n.* 1-*H. ox.* v. 28. *row* 1. 1-*Ger.* 319. 1-*Munt. brit.* 174, *and phyt.* 73-*Lonic.* 88. 2.

*Leaf-stalks* purplish. *Bloss.* reddish.
*Common Sorrell. Sorrell Dock.* Meadows and pastures. P. June.*

R. Leaves spear-halberd-shaped. Acetosel'la.

*El. dan.* 1161-*Blackw.* 307-*Trag.* 31.-*J. B.* ii. 992. 1-*Dod.* 650. 1-*Lob. obs.* 156. 1-*ic.* i. 291. 2-*Ger. em.* 397. 3-*Park.* 744. 13-*H. ox.* v. 28. 12-*Pet.* 3. 2-*Munt. brit.* 189. 2; *phyt.* 76. 2; *brit.* 182. *phyt.* 77-*Matth.* 448-*Ger.* 320. 3-*Park.* 744. 15-*H. ox. ib.* 11-*Pet.* 3. 4-*Zanon.* 5.

The lobes at the base of the leaves pointing upwards or horizontally, but in the preceding species they always point backwards. Flowers reddish.

It is subject to some slight variations in the shape of the leaves, as represented in Ger. 321. 6 and 7, and Ger. em. 398. 6.

*Sheep's Sorrell, or Dock.* Sandy meadows, pastures, gravel walks. P. May, June.

Obs. The *Phalæna fuliginosa, Atriplicis* and *Rumicis,* and the *Meloe Proscarabæus,* are found upon the different species of this genus.

## TOFIEL'DIA. *Calyx* none: *bloss.* 6 petals: *caps.* 3-celled, 6-valved.

T. palus'tris.

*E. bot.* 536-*Seguier.* 2. 14-*Fl. dan.* 36-*Clus.* i. 198-*Ger. em.* 96-*Lightf.* 8. 2. *at p.* 124-*Fl. lapp.* 10. 3-*Gmel.* i. 18. 2.

* The leaves are eaten in sauces and in sallads. The Laplanders use them to turn their milk sour. In France they are cultivated for the use of the table, being introduced in soups, ragouts, and fricasies. In some parts of Ireland they eat them plentifully with milk, alternately biting and supping. The Irish also eat them with fish, and other alcalescent food. The dried root gives out a beautiful red colour when boiled. A Salt, sold for Salt of Lemons, is prepared in Germany, from the expressed juice of this plant, and is imported into England in considerable quantity. The mucilaginous parts are separated by water mixed with pipe-clay, and 2 or 3 chrystallizations make the Salt sufficiently pure.—Horses, cows, goats, sheep, and swine eat it. The *Aphis Acetosæ* feeds upon it.

A small trifid *floral-leaf* at the base of each flower, resembling a cup. LIGHTF. Leaves like grass. Flowers in a spike; yellow.

*Asphodelus Lancastriæ verus. Ger. em.* 96. *n.* ‡ 2. *Anthericum calyculatum.* Linn. *Scotch Asphodel. Marsh Tofieldia.* Bogs on mountains in Scotland. Near Berwick. On Glenmore, Rossshire, and Ben Grihum, Sutherland. About Loch Rannoch, Perthshire. Isle of Rum, and Bidan-nam-bian in Glencoe. [In a bog at the back of Invercauld house Aberdeenshire, where it grows abundantly and with uncommon luxuriance. Also on several hills about Invercauld and on the mountains of Breadalbane. Mr. BROWNE.—West side of the county of Durham. Mr. ROBSON.] P. July—Sept.

## TRIGLO'CHIN. *Cal.* 3-leaved: *petals* 3, like a cup: *style* none: *caps.* opening at the base.

palus'tre. T. Capsule 3-celled, nearly strap-shaped.

*E. bot.* 366–*Fl. dan.* 490–*Leers* 12. 5–*Trag.* 679–*H. ox.* viii. 2. 18–*J. B.* ii. 308. 2–*Ger.* 18. 1–*C. B. th.* 81–*Ger. em.* 20. 1–*Park.* 1279. 10.

Stamens, 3 within the leaves of the calyx, and 3 within the petals. Mr. HOLLEFEAR. The pointed valves of the *capsule* opening at the bottom, give it the appearance of the head of an arrow. *Flowers* in a long terminating spike, greenish.

*Arrow-headed Grass. Marsh Arrow-grass.* Wet meadows and pastures. [Tamworth.] P. July, Aug.*

marit'imum. T. Capsule 6-celled, egg-shaped.

*Fl. dan.* 306–*E. bot.* 255–*Ger.* 12. 2–*C. B. th.* 82–*Park.* 1278. 9–*H. ox.* viii. 2. 19–*J. B.* ii. 508. 1.

*Leaves* slender, semi-cylindrical. *Spike* from 4 to 12 inches long; greenish.

*Sea Arrow-grass.* Meadows near the sea. [Near Yarmouth. Mr. WOODWARD.—Salt marsh near Ingestre, Staffordsh. ST.—Bog at the source of the Yar, in the Isle of Wight. Salt marshes about Lymington.] P. May. Aug.†

## COL'CHICUM. *Calyx* none: *bloss.* with 6 divisions, tube very long, extending down to the root: *Caps.* 3, inflated, united.

* Cows are extremely fond of it. Horses, sheep, goats, and swine eat it.

† It is salt to the taste; but horses, cows, sheep, goats, and swine are very fond of it. LINN.—May it not, therefore, prove a useful grass on the sea shore, and in salt marshes? Dr. STOKES.

C. Leaves flat, spear-shaped, upright. autumnale.

*Stoerck.–Fuchs.* 356. 357–*Woodv.* 177–*E. bot.* 133–*Trag.* 759–*J. B.* ii. 649–*Blackw.* 566–*Kniph.* 12–*Dod.* 460. 2–*Ger. em.* 157. 1–*Ger. em.* 157. 2–*Pet.* 67. 2–*Tourn.* 181. 182–*H. ox.* iv. 3. 1–*Ger.* 127. 1 *and* 2.

Flowers in September, produces its fruits in the following spring, and ripens it in summer. LINN. In the spring several spear-shaped *leaves* arise, with generally 1 or 2 as long as the rest, but only ½ as wide, being a kind of *flower-leaves* to the seed-vessel. *Capsule* large, somewhat egg-shaped, with 3 very blunt angles. WOODWARD. *Bloss.* tube 3-cornered; *segments* rather unequal. *Styles* reaching down to the root. *Germen* at the root surrounded by the rudiments of the future leaves. It lies buried all winter within the root; in spring it grows up on a fruit-stalk, and ripens about the time of hay harvest. May not the very great length of the styles account in some measure for the delay in the ripening of the seeds? As this plant blossoms late in the year, and probably would not have time to ripen its seeds before the access of winter, which would destroy them, Providence has contrived its structure such, that this important office may be performed at a depth in the earth, out of reach of the usual effects of frost, as seeds buried at such a depth, are known not to vegetate. A no less admirable provision is made to raise them above the surface when they are perfected, and to sow them at a proper season. *Bloss.* pale purple.

*Meadow Saffron*, or *Tuberoot*. Meadows, low as well as mountainous, in rich soil in the west and north of England.—[Near Bury. Mr. WOODWARD.—Derby. Mr. WHATELY.—In orchards on the borders of Malvern Chace, Worcestershire. Mr. BALLARD.—On the meadows bordering the Severn, Worcestershire. ST.—Wellington and Hales Owen, Shropshire. In the meadow between the church and the medicinal spring at Cheltenham, in great plenty.] P. Aug. Sept.*

Var. 2. Blossom divisions very large, green, and leaf-like; stamens imperfect.

Shewn me by Mr. SALMON, who observed it growing thus year after year in Wiltshire.

* This is one of those plants which upon the concurrent testimony of ages was condemned as poisonous; but Dr. Storck, of Vienna, hath taught us that it is a useful medicine. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup, by the addition of sugar or honey, is found to be a very useful pectoral and diuretic. It seems in its virtues very much to resemble Squill, but is less nauseous and less acrimonious, though more sedative.

In a pasture in which were several horses, and eaten down pretty bare, the grass was closely cropped even under the leaves, but not a leaf bitten. Mr. WOODWARD.

## HEXAGYNIA.

ARISTOLO'CHIA. *Bloss.* 1 petal, tongue-shaped, entire; *stamens* near the germen: *caps.* 6-celled, beneath.

Clemati'tis. A. Leaves heart-shaped: stem upright: flowers crowded, in the bosom of the leaf-stalks.

*Ludw.* 105–*E. bot.* 398–*Riv. mon.* 116–*Mill. illustr.*–*Mill. ic.* 51. 1–*Woodv.* 238–*Blackw.* 255–*Kniph.* 1–*Clus.* ii. 71 –*Dod.* 326–*Lob. obs.* 332. 2. *ic.* i. 697. 2–*Ger. em.* 847. 4–*H. ox.* xii. 17. 5–*Ger.* 697–*Lonic.* i. 134. 2–*Fuchs.* 90–*Trag.* 178–*Matth.* 648–*Gars.* 5. A.

*Stem* upright, 2 or 3 feet high, simple, scored, cylindrical, smooth, slightly zigzag. *Leaves* alternate, blunt, shining above, pale green, smooth and veiny underneath. *Leaf-stalks* nearly as long as the leaves. *Flowers* 6 or more together, upright or hanging down. *Blossom* scored, yellowish green, often tinged with purple. *Capsule* egg-shaped, blunt, hanging down. Mr. Woodw. Woods and hedges. Wood 2 miles from Thorndon, Essex, and in Cambridgeshire. Blackstone.—Near Maidstone, Kent. Huds.—[Stuston, Suffolk. Mr. Woodw.] P. July—Sept.

The *Tipula pennicornis* fecundates the flowers. Schreber.

## POLYGYNIA.

ALIS'MA. *Calyx* 3-leaved: *petals* 3: *seeds* many.

Planta'go. A. Leaves egg-shaped, acute, on leaf-stalks: umbellules bluntly 3-cornered.

*Curt.* 318–*E. bot.* 837–*Kniph.* 12–*Fl. dan.* 561–*Trag.* 226. 2–*Lonic.* 142. 4–*Fuchs.* 42–*J. B.* iii. 787. 3–*Matth.* 482 –*Dod.* 606. 1–*Lob. obs.* 160. 1–*Ger. em.* 417. 1–*Park.* 1245. 1–*Ger.* 337. 1–*Pet.* 43. 6.

*Fruit-stalks* mostly 6 in a whirl, alternately longer and shorter; their subdivisions the same. Mr. Stackhouse. *Stems* and *branches* with 3 blunt corners. *Leaves* with 8 ribs, 2 of them near each edge. *Bloss.* fully expanded about 4 in the afternoon; *petals* ragged at the end, shrivelling, pale reddish purple, yellow at the base. *Capsules* about 18; egg-shaped.

*Water Plantain. Greater Thrumwort.*

Var. 2. Long-leaved.

*Pet.* 43. 7.

Leaves spear-shaped; on leaf-stalks; less acutely pointed

than in the preceding.—Common in watery places, banks of pools and rivers. P. July—Aug.

A. Leaves heart oblong: pistils 6: capsules awl-shaped. Damaso'nium.

*Curt.–Lob. obs.* 160. 2, *and ic.* i. 301. 1–*Ger. em.* 417. 2–*Park.* 1245. 3.

*Leaves* with net-like veins. *Leaf-stalks* flat, long. *Stem* naked. *Flowers* in lateral and terminating umbels. Mr. WOODWARD. *Capsules* large, spear-awl-shaped, forming a star-like umbellule with 6 spokes. *Bloss.* white.

*Star-headed Thrumwort.* Ditches and stagnant waters. [Rumford. Mr. PITCHFORD.] P. June—Aug.

A. Root-leaves strap-shaped, membranaceous; floating leaves egg-shaped, blunt, on long leaf-stalks: fruit-stalks solitary. natans.

*E. bot.* 775.

Capsules generally 8. Flowers several from the same sheath. LINN. Fruit-stalk very long. Flowers large. WOODWARD. In alpine rivulets I have seen the leaves drawn to the length of 3 or 4 yards by the force of the stream, but in this state and situation it never flowers. Mr. GRIFFITH.

*Creeping Thrumwort.* Lakes and wide ditches. [South end of the lake of Bala, Merionethshire. Mr. WOOD. In a small rivulet on the west side of the lower lake at Llanberris, about ½ a mile from the old castle. Mr. GRIFFITH.] P. July.

A. Leaves strap-spear-shaped; on leaf-stalks: umbellules globular; the points of the capsules diverging. ranunculoi'des.

*E. bot.* 326–*Fl. dan.* 122–*J. B.* iii. 788–*Lob. ic.* i. 300. 2–*Ger. em.* 417. 3–*Park.* 1245. 2–*Pet.* 43. 8.

This plant has a very disagreeable smell. Mr. ATKINSON. In places where the water is nearly dried up the *stem* is from 2 to 6 inches high, hardly longer than the leaves, and some of the flowering *branches* trailing; but, where there is plenty of water, the *stem* is from 1 to 2 feet high, upright, naked, the umbels numerous, proliferous, and the *root-leaves* not greatly exceeding the leaf-stalks in breadth. Mr. WOODWARD. *Capsules* inversely egg-shaped, pointed. *Bloss.* bluish white, opens about noon.

*Lesser Thrumwort.* Wet turfy bogs. [Giggleswick Tarn, Yorkshire. CURT. Boggy meadows, common. Bungay, Suffolk. Ellingham Fen, Norfolk. Mr. WOODWARD. Between Burton and Derby. Mr. WHATELY. In the ditch at Goldmire near Dalton. Mr. ATKINSON. In the marsh at Marazion.]

P. June—Sept.

lanceola'ta. A. Leaves strap-spear-shaped: fruit 3-cornered.

*Ger.* 337. 2.

Not more than an inch or two in height. Leaves nearly strap-shaped, without any distinct leaf-stalk.

Ditches and shallow waters.

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## CLASS. VII.

# HEPTANDRIA.

## MONOGYNIA.

TRIENTA'LIS. *Calyx* 7 leaves: *bloss.* with 7 divisions, equal, flat: *berry* dry, superior, globular, 1-valved, 1-celled: *seeds* flatted.

Europæa. T. Leaves spear-shaped: very entire.

*E. bot.* 15–*Fl. dan.* 84–*C. B. pr.* 99–*Pet.* 62. 13–*Park.* 509. 5. *a*–*C. B. pr.* 100–*H. ox.* xii. 10. *row* 3. 6–*Park.* 509. 5. 6.

*Bloss.* close on the approach of rain, when the flowers hang down. LINN. *Stem* single, about 5 inches high. *Leaves* 5 to 7, terminating the stem. *Flowers* commonly 2, on long fruit-stalks. LIGHTF. Terminating *leaves* sometimes 8, finely, but obscurely serrated, smooth; 1 or 2 smaller ones scattered on the upper part of the stem. STOKES. *Leaves* sometimes oval-spear-shaped. WOODWARD. *Bloss.* white, on long fruit-stalks.

*Chickweed Winter Green.* Woods and turfy heaths in the northern counties. Near Bingley, Yorkshire, plentifully. Moorish ground on the sides of the Highland mountains. [Foot of Ben Lomond. On the North side plentiful. Den of Ballhaisek, Perthshire, and woods about Aberdeen. Mr. BROWN.]

P. June, July.

# CLASS VIII.

# OCTANDRIA.

## MONOGYNIA.

(1) *Flowers complete.*

A'CER. Male *Flowers* many: *Bloss.* 5 petals: *Cal.* 5-cleft: *Capsules* 2 or 3; 1 seed in each; winged with a membrane at the end.

ŒNO'THERA. *Cal.* with 4 divisions; *Bloss.* 4 petals. *Caps.* cylindrical, beneath. *Seeds* naked.

EPILO'BIUM. *Bloss.* 4 petals: *Cal.* with 4 divisions; superior: *Caps.* 4-celled: *Seeds* downy.

CHLO'RA. *Bloss.* 8-cleft: *Cal.* 8 leaves; beneath: *Caps.* 1-celled; 2-valved; many seeded.

VACCI'NIUM. *Bloss.* 8-cleft: *Cal.* 4-toothed: superior: *Anthers* awned in the middle: Fruit a *Berry.*

ERI'CA. *Bloss.* 4-cleft: *Cal.* 4 leaves; beneath: *Anthers* cloven: *Caps.* many-seeded.

POP'ULUS. *Flowers* in Catkins; M. and F. on distinct plants. *Cal.* a ragged scale of the catkin: *Bloss.* turban-shaped; oblique; entire.

F. *Summit* 4-cleft: *Caps.* 2-celled: *Seeds* many; downy.

[Monotropa Hipopithys. Andromeda Daboecia.]

(2) *Flowers incomplete.*

DAPH'NE. *Cal.* 4-cleft; equal; resembling a blossom: *Stamens* inclosed: *Berry* pulpy.

[Salix pentandra.]

## DIGYNIA.

CO'RYLUS. *Flowers* M. and F. on the same plant: *Bloss.* none.

M. *Catkin tiled*: *Cal.* 1 leaf; 3-cleft; resembling a scale: inclosing 1 flower.

F. *Cal.* 1 leaf; 2-lipped; ragged: *Nut* egg-shaped.

[Scleranthus annuus, and perennis. Chlora perfoliata. Polygonum pensylvanicum. Chrysoplenium. Quercus.]

## TRIGYNIA.

POLY'GONUM. *Cal.* with 5 divisions; coloured: *Bloss.* none: *Seed* 1; naked.

[Quercus.]

## TETRAGYNIA.

ELATI'NE. *Bloss.* 4 petals: *Cal.* 4 leaves: *Caps.* 4-celled.

PA'RIS. *Bloss.* 4 petals; awl-shaped: *Cal.* 4-leaved: *Berry* 4-celled.

ADOX'A. *Bloss.* superior; 4 or 5-cleft: *Cal.* 2 leaves: *Berry* with 4 or 5 seeds.

MYRIOPHYL'LUM, *Flowers* often M. and F. on the same plant: *Cal.* 4 leaves: *Bloss.* none.

F. *Style* none: *Seeds* 4; naked.

QUER'CUS. *Flowers* M. and F. on the same plant: *Bloss.* none.

M. *Cal.* mostly 5-cleft: *Stam.* 5 to 10.

F. *Cal.* 1 leaf; very entire; rough: *Styles* 2 to 5: *Seed* 1; egg-shaped.

RHODI'OLA. *Flowers* M. and F. on different plants. *Cal.* with 4 divisions.

M. *Bloss.* 4 petals.

F. *Bloss.* none: *Nectaries* 4: *Caps.* 4-seeded.

## OCTANDRIA.

## MONOGYNIA.

EPILO'BIUM. *Cal.* 4-leaved, deciduous: *petals* 4: *caps.* beneath, 4-celled, very long: *seeds* many, downy at the top.

(1) *Stamens leaning.*

angustifo'lium. E. Leaves scattered, strap-spear-shaped: blossoms irregular.

*Fl. dan.* 326–*Curt.* 106–*Kniph.* 11–*Park. par.* 267. 6–*Ger. em.* 289. 7–*Pet.* 52. 10–*J. B.* ii. 907. 1–*H. ox.* iii. 11. *row* 1. 1, *f.* 3.

*Leaves* edged with a few small teeth, thinly set. *Blossoms* rose coloured, or white. *Petals* entire. The *Stamens*, the *Anthers*, and the *Pistils*, have regular and successive motions during the impregnation of the *Germen*.

*Rosebay Willow-herb.* Woods and hedges. Meadows near Sheffield; Alton, Hants; Maize Hill beyond Greenwich; many places in Scotland; Grass Woods near Kilnsay, Yorkshire. [At Satterthwaite and Brow-edge in Furness Fells. Mr. JACKSON.—Near Berkhamstead, Herts, plentifully. Mr. WOODWARD—Near the canal bridge at Oldbury, Staffordshire.] P. June. Aug.*

(2) *Stamens upright; Blossoms regular; petals cloven.*

E. Leaves egg-spear-shaped, hairy, half embracing the stem: stem very much branched and hairy. hirsu'tum.

*Fl. dan.* 326–*Curt.* 117–*E. bot.* 838–*Fuchs.* 491–*J. B.* ii. 905. 3–*Lonic.* i. 135. 2–*Ger.* 386. 3–*Ger. em.* 476. 6–*Pet.* 52. 11–*H. ox.* iii. 11. 3.

*Stem* cylindrical. *Leaves* opposite or alternate, with soft hairs on both sides; serratures hooked, blunt. *Branches* and *fruit-stalks* from the bosom of the leaves. *Calyx leaves* smooth, united at the base by means of a glandular receptacle. *Petals* twice as long as the calyx, inversely heart-shaped, of a fine rose-colour: claws white with white scores spreading upwards. *Filaments* white, the longest much longer than the calyx. *Flowers* sometimes wholly white.

*Large flowered Willowherb. Great Hairy Willowherb. Codlings and Cream.* Moist hedges, ditches, and banks of brooks, rivers, and lakes. P. July.†

E. Leaves spear-shaped, pubescent, nearly sitting: stem hairy, unbranched. parviflo'rum.

*Curt.* 125–*E. bot.* 795–*Fl. dan.* 347–*H. ox.* iii. 11. 4–*Pet.* 52. 12.

*Stem* cylindrical, sometimes branched towards the top. *Leaves* mostly opposite, lower ones rather embracing the stem,

* Goats are extremely fond of it. Cows and sheep eat it. Horses and swine refuse it.—The *Phalæna Porcellus* and *Spinx Elpenor*, are found upon it. The suckers of the root are eatable. An Infusion of the plant has an intoxicating property, and the Kamtschatcadales brew a sort of ale from the pith, and from the ale make alegar. The down of the seeds also mixed with cotton or fur has been manufactured into stockings and other articles of cloathing.

† The top shoots have a delicate fragrance resembling scalded codlings, whence one of its names, but so transitory, that, before they have been gathered 5 minutes, it is no longer perceptible. Horses, sheep, and goats eat it. Cows are not fond of it. Swine refuse it.

middle ones sitting, upper ones sometimes on very short leaf-stalks. *Bloss.* much smaller than in either of the preceding species; flesh coloured. *Filaments* the longest hardly longer than the calyx.

*Woolly or Wood Willowherb. E. hirsutum.* β LINN. *E. hirsutum.* HUDS. E. *villosum.* CURT. Fl. oxon. and Bot. arr. ed. ii. E. *parviflorum.* SCHREB. GMELIN. and Bot. arr. ed. i. Watery places and sides of ditches and rivulets. P. July, Aug.

monta'num. E. Leaves opposite, egg-shaped, toothed; the upper ones alternate: stem cylindrical.

*Curt.* 195–*Fl. dan.* 922–*Kniph.* 11–*Walc.*–*Clus.* ii. 51. 2–*Dod.* 85. 1–*Lob. obs.* 185. 4–*Ger. em.* 479. 11–*Park.* 548. 3–*Pet.* 53. 1.

*Stem* cylindrical, upright, reddish, very soft, somewhat downy. *Leaves* smooth, finely toothed, very soft, especially underneath, with a down just perceptible. LINN. *Leaves* spear-egg-shaped. *Petals* pale purple, veined with deeper purple lines; sometimes white.

Var. 2. Leaves 3 and 4 at a joint.

*Smooth-leaved Willowherb.* Woods, hedge rows, shady lanes, and moist meadows, in a gravelly soil, and sometimes on walls in courts. P. July.

tetrago'num. E. Leaves spear-shaped, finely toothed, the lowermost opposite: stem 4-cornered: (summit entire. CURT.)

*Fl. dan.* 1029–*Kniph.* 11–*Curt.* 131.

*Stem* upright. *Leaves* smooth; sometimes all strap-spear-shaped. WOODWARD. *Bloss.* purplish red.

*Square-stalked Willowherb.* Marshes, and sides of rivulets and ditches. [Near Bungay, Suffolk; and Alconbury, Huntingdonshire. Mr. WOODWARD.] P. July.

palus'tre. E. Leaves opposite, spear-shaped, very entire: petals notched at the end: stem upright.

*Dicks. h. s.–E. bot.* 346–*Ger.* 386. 4–*Pet.* 53. 4.

*Stem* cylindrical, downy, or smooth. RELHAN. *Upper-leaves* alternate, varying extremely in breadth. Short leafy branches rise from the bosom of the leaves. WOODWARD. *Leaves* sitting smooth. *Petals* notched at the end, reddish purple, with deeper purple streaks. *Anthers*, at the time of shedding their pollen, adhere firmly to the summits, so as hardly to be separated without violence, but before and after that time they do not touch it.

*Marsh Willowherb.* Marshes, bogs, and sides of lakes. P. July.

E. Leaves opposite, sitting, smooth, egg-spear-shaped, almost entire: capsules sitting: stem with about 3 flowers, trailing at the base. alpi'num.

*Dicks. h. s.–Fl. dan.* 322–*Lightf.* 10. 1. *at p.* 242.

*Stem* trailing, hardly a span high. LINN. Afterwards upright, bearing 1 or 2 flowers at the top. *Leaves* quite smooth. *Pods* quite smooth, 4 or 5 times longer than the leaves. LIGHTF. *Leaves* sometimes slightly toothed. Mr. WOODWARD.

*Alpine Willowherb.* Alpine rivulets. Cheviot Hills, Northumberland; near Settle, Yorkshire; Ben Buy, Ben Lomond, and near Little Loch Broom, Ross-shire. Mountains in Breadalbane and Corry Yaal, in Glenco. [Moist rocks about Buckbarrow Well. CURT.]. P. July, Aug.

ŒNO'THERA. *Bloss.* 4 petals. *Cal.* with 4 divisions. *Caps.* cylindrical, beneath. *Seeds* naked.

O. Leaves egg-spear-shaped, flat; stem covered with sharp points and soft hairs. bien'nis.

*Fl. dan.* 446–*Kniph.* 67.

This plant has been discovered in such various and little frequented parts of the kingdom, that we can no longer hesitate to introduce it as British. Mr. Norris says, it has established itself, to his knowledge, during five years, if not longer, in a neglected concavity whence a coarse sand-stone has been formerly extracted, in Bowood Park, the seat of the Marquis of Lansdown, near Devizes. The seeds are regularly ripened every year, and produce abundantly: the plants in general do not flower before the second season, after which the root dies, being biennial. They seem perfectly naturalized and increase in number yearly. Mr. Norris lately saw more than twenty distinct ones in flower, surrounded by a multitude of younger, which will not blossom till the succeeding season. The spot is not near any house nor vestiges of such. About Bath, and some other places, it is said to be commonly found on dunghills, &c. seeming to be in parallel circumstances with the Datura Stramonium. It attains the height of 5 or 6 feet. The main stem and larger branches are every where beset with minute asperities, terminating in fine transparent hairs, feeling not unlike a rough file. Leaves rather waved than flat.

[Bowood Park. Mr. NORRIS. Ballast-hills, near Sunderland, Durham. Mr. ROBSON. In Worcestershire. Rev. Mr. BOURNE.] B.

pu'mila. O. Leaves spear-shaped, blunt, smooth, on small leave-stalks. Stems rather prostrate. Capsules acute-angled.

*Stem* 5 or 6 inches high, herbaceous, columnar, gently winding, straddling. *Leaves* elliptically spear-shaped, very entire. *Flowers* from the base of the leaves, solitary, upright, nearly sitting. Petals yellow, inversely heart-shaped, streaked. *Capsules* inversely egg-shaped, blunt, with 8 angles, the 4 wider angles compressed; 4 valves. *Root* perennial. LINN. This elegant plant, new to the English botanist, has been found growing wild on Coleshill Common, Warwicksh. by Lord Aylesford's gardener.

## A'CER. *Male* flowers intermixed.

*Calyx* 5-cleft: *bloss.* 5 petals: *caps.* 2 or 3; 1-seeded; ending in a leaf-like expansion.

Pseudo-pla'tanus. A. Leaves 5-lobed, blunt, unequally serrated: flowers in compound, pendent bunches.

*E. bot.* 303–*Hunt. evel. p.* 200. i. *p.* 193. *ed.* II. *at p.* 293–*Nat. delin.* ii. 21. 1. *at p.* 312–*Lob. obs.* 614. *and ic.* ii. 199. 2–*Park.* 1425. 1–*Clus.* i. 10. 1–*Dod.* 840. 1–*Ger. em.* 1484. 1–*Trag.* 1125.

*Bloss.* yellowish green; petals so much like the calyx that it might be considered at first sight as a cup of 10 leaves.

*Sycamore Tree. Sycamore Maple.* Woods, hedges, and near houses. T. May, June.*

Var. 2. Leaves glaucous underneath; serratures very distant; filaments hairy.

First observed by A. Caldwell, Esq. of Dublin. Dr. Smith suspects it may be a distinct species. See E. bot. p. 303; but the filaments in Var. 1, are hairy, as well as the germen.

* It flourishes best in open places and sandy ground: but will thrive very well in richer soil. It grows quick; is easily transplanted; bears cropping, and the grass flourishes under its shade. It is said to grow better near the sea than in any other situation, and that a plantation, *of these trees at 50 feet asunder*, with 3 sea *Sallow-thorns* between every 2 of them, will make a fence sufficient to defend the herbage of the country from the spray of the sea. *Gent. Mag.* 1757, p. 252.—The wood is soft, and very white. The turners form it into bowls, trenchers, &c.—If a hole is bored into the body of the tree, when the sap rises in the spring, it discharges a considerable quantity of a sweetish watery liquor, which is used in making wine, and, if inspissated, affords a fine white sugar.—The pollen appears globular in the microscope, but, if touched with any thing moist, these globules burst open with 4 valves which then appear in form of a cross. *Scarabæus Melontha* feeds upon the leaves. LINN.

A. Leaves 5-lobed, very entire: the lower lobes notched: corymbus with 3 divisions, upright. campestre.

*Hunt. evel. at p.* 190; i. *p.* 183. *ed.* II.–*E. bot.* 304–*Tourn.* 386. 1–*Spect. de la Nat.* ii. 29. 2. *at p.* 290. *and Nat. delin.* ii. 19. 2. *at p.* 312–*Dod.* 840. 2–*Ger. em.* 1484. 2–*J. B.* i. 2. 166–*Trag.* 1123–*Lon.* i. 36. 1.

*Bark* angular, cork-like. Seldom ripens its fruit in Sweden. LINN. *Blossoms* terminating; pale green.

*Common Maple.* Hedges and thickets. S. June.*

CHLO'RA. *Cal.* 8-leaved: *bloss.* 1 petal, 6 or 8-cleft: *Caps.* 1-celled, 2-valved, many-seeded.

C. Leaves perforated. perfolia'ta.

*E. bot.* 60–*Walc.*–*Barr.* 515 *and* 516–*J. B.* iii. 355–*H. ox.* v. 26. *row* 1. 1. *and* 2. *f.* 1–*Pet.* 55. 8–*Clus.* ii. 180–*Lob. obs.* 219–*Ger. em.* 547. 2–*Park.* 272. 4–*Ger.* 437. 2.

*Root-leaves* oval, sitting, spread in form of a star; *lowest stem-leaves* oval, spear-shaped, sitting, the rest perforated, oval-spear-shaped. *Flowers* in a kind of umbel, of 3 rays, encompassed by the uppermost leaf, the middle one bearing a single flower without any leaves; the outer ones terminated by a leaf similar to the stem-leaves, from which an umbellule supporting 1 or more flowers. WOODWARD. *Leaves* of the calyx, and divisions of the blossom varying from 8 to 10. *Stamens* from 6 to 9. *Caps.* oblong, longer than the tube of the blossom. *Style* thickest towards the top, cloven, yellow. *Summits* 2, shaped like a horse-shoe, yellow. *Bloss.* fine full yellow.

*Perforated Yellow-wort.* Stiff clay or marly grounds. Mountainous meadows and pastures in a calcareous soil. [Near Bungay, Suffolk. Mr. WOODWARD. Side of Malvern Chace, Worcestershire. Mr. BALLARD. Edge of the Ridd Cliff, Worcestershire. St. Coalbrookdale. Mr. AIKIN. Ranton Abbey, Staffordshire. River side opposite to St. Vincent's Rocks.]

A. June—Sept.

VACCI'NIUM. *Calyx* superior: *bloss.* 1 petal: *filaments* fixed to the receptacle: *berry* 4-celled, many-seeded; beneath; dimpled.

(1) *Leaves annual, or deciduous.*

* The wood is much used for turning in the lathe, and vessels may be turned so thin as to transmit light.

Myrtil'lus. V. Fruit-stalks 1-flowered: leaves serrated, egg-shaped: stem angular.

*Dicks. h. s.–E. bot.* 436–*Sheldr.* 18–*Fl. dan.* 974–*Kniph.* 8. *Matth.* 231–*Dod.* 768. 2–*Lob. obs.* 546. 2–*Ger. em.* 1415. 1–*Park.* 1456. 1–*Blackw.* 463.

*Stamens* 10. *Bloss.* segments 5. *Caps.* cells 5. *Stem* and *branches* 4-cornered. *Leaves* alternate, serratures blunt. *Berries* black. LINN. *Bloss.* nearly globular, but a little flatted at the base; pale reddish purple; *mouth* very small, with 5 small reflected teeth; reddish white. *Berries* bluish black.

*Black Worts. Black Whortle-berries. Hurtle-berries. Bilberries. Wind-berries. Blea-berries. Bilberry Whortle.* Woods and heaths. [Portland Heath. Mr. CROWE. Rocks above Great Malvern, Worcestershire. Mr. BALLARD. The Bishop's Woods, near Eccleshall. Lightwoods, near Birmingham.] S. April, May.*

uligino'sum. V. Fruit-stalks 1-flowered: leaves very entire, inversely egg-shaped, blunt, smooth.

*E. bot.* 581–*Kniph.* 9–*Fl. dan.* 231–*Clus.* i. 62. 1–*Ger. em.* 1416. 6–*Park.* 1456. 2.

*Stems* generally a foot high. *Leaves* when young fringed at the base, flat. *Berries* blue, with 4 slight angles, and a white pulp. LINN. *Leaves* with a network of veins underneath, sometimes slightly dented at the end, often tinged with red. Mr. WOODWARD. *Bloss.* pink.

*Great Bilberry Bush,* or *Whortle. Rash-berries.* Moistish woods, heaths and pastures, and tops of mountains. Between Hexham and Penrith. Forest of Whinfield, Westmoreland. Near Julian's Bower, Highland mountains. [Near Gamblesby, Cumberland. RAY. Mr. WOODWARD.] S. April, May.†

(2) *Leaves evergreen.*

Vitis-idæ'a. V. Bunches terminating, nodding: leaves inversely egg-shaped; edge very entire and rolled back; dotted underneath.

* The first tender leaves, cannot be distinguished from real tea, when properly gathered, and dried in the shade. WILLICH. The berries are very acceptable to children, either eaten by themselves, or with milk, or in tarts. The moor game live upon them in the autumn. The juice stains paper or linen purple. Goats eat it; sheep are not fond of it; horses and cows refuse it.

† Children sometimes eat the berries; but in large quantities they occasion giddiness, and a slight head-ach, especially when full grown and quite ripe. Many vintners in France are said to make use of the juice to colour their white wines red. Horses, cows, sheep, and goats eat it; swine refuse it.

*Dicks. h. s.–E. bot.* 598–*Fl. dan.* 40–*Kniph.* 9–*Dod.* 770. 1–*Ger. em.* 1415. 2–*Park.* 1456. 4–*J. B.* i. *a.* 522.

Is seldom found in blossom. CURT. *Stems* obliquely ascending, scarcely a span high, cylindrical. *Leaves* alternate. *Berries* red. LINN. *Leaves* with deep veins above, which are equally prominent underneath: some much smaller leaves intermixed with the rest. WOODWARD. *Leaves* sometimes obscurely serrated towards the end. STOKES. *Floral-leaves* and *cups* coloured. *Filaments* very white, woolly. *Anthers* red, of 2 cells, each with a yellowish tube at the point. *Bloss.* pale pink.

*Red Whortle-berries.* Mountainous parts of Derbyshire, Staffordshire, and Yorkshire. RAY. Dry places in heaths, woods, and tops of mountains. LIGHTF. and marshy heaths. HUDS. [Top of Skiddaw and Ingleborough. Mr. WOODW. Cannock Heath, Staffordshire, in a dry gravel. Dr. STOKES. Stiperstones, near Salop. Mr. AIKIN. Near Witton-le-Wear. Mr. ROBSON.] S. March, April.*

V. Fruit-stalks single, or in pairs: leaves egg-shaped, very entire, edges rolled back: stem thread-shaped, trailing, not hairy. Oxycoc'cos.

*Dicks. h. s.–Fl. dan.* 80–*E. bot.* 319–*Blackw.* 593–*Lob. obs.* 547. 3–*J. B.* i. *a.* 227. 2–*Dod.* 770. 2–*Ger. em.* 1419–*Park.* 1229–*Ger.* 1367.

*Stamens* sometimes 10. Mr. GOUGH. Fl. leaves 2. LINN. *Fruit-stalks* red, semi-transparent, single or in pairs, 1 flower on each. *Calyx* smooth, fringed at the points, coloured. *Bloss.* 4 distinct petals, rolled back to the base and falling off separate. *Anthers* 2-celled, each ending in a hair-like tube open at the end. *Style* red, tubular. *Summit* an open hole. *Bloss.* deep flesh-colour. *Berry* pale red, mottled with purple dots; when fully ripe purplish red. Schollera *Oxycoccos.* GMEL. Syst. veg. In structure certainly different from the other Vacciniums, but as the Schollera of Gmelin seems different from the genus so named by Schreber, it was judged better for the present to let it remain with the Vacciniums.

*Cran-berries. Moss-berries. Moor-berries. Fen-berries. Marsh Whorts. Marsh Whortle-berries. Corn-berries.* Peaty bogs. [In the North, frequent. Mr. WOODWARD.—Dersingham Moor, Norfolk. Mr. CROWE.—Sutton Coldfield Park, Warwickshire.

* The berries are acid, and not very grateful, but they are eaten by the Laplanders and by the country people, and are sent in large quantities from W. Bothnia to Stockholm for pickling. LINN. They are also made into tarts, rob, and jelly. Goats eat it; cows, sheep, and horses refuse it.

RAY. STOKES.—Lincolnshire, in great quantities. Bishop's Woods, near Eccleshall, Staffordsh. Birmingham Heath.]*

ERI'CA. *Cal.* 4-leaved: *bloss.* 4-clefted: *filaments* fixed to the receptacle: *anthers* cloven and perforated at the top: *caps.* 4-celled, 4-valved, many-seeded.

(1) *Anthers simple, awnless: leaves alternate.*

Daboe'cia. E. Leaves cottony underneath.

*Dicks. h. s.–E. bot.* 35–*Pet. gaz.* 27. 4.

*Bunch* terminating, simple. *Flowers* alternate. *Pedicles* with 1 flower. *Floral-leaf* strap-shaped, at the base of each pedicle. *Calyx* only a 4th part as long as the blossom, falling off. *Bloss.* cylindrical-oval; *mouth* a little contracted, 4-cleft; *segments* bent back. It has the habit of Andromeda, but the numbers of Erica. LINN. *Leaves* generally alternate, sometimes opposite, or even 3 together; dark green above, white with cottony down underneath. *Calyx* 1 leaf, deeply divided into 4 spear-shaped segments. *Blossoms* purplish red, flatted at the base, marked lengthwise with 4 slightly elevated ridges; *segments* spear-shaped, waved at the edge, rolled back.

Andromeda *Daboecia.* LINN. *Irish Worts,* or *Moorwort.* Spongy wet uncultivated land on the mountains of Mayo and Hiar Connacht. RAY. S. June, July.

(2) *Anthers awnless: leaves* 4 *in a whirl.*

va'gans. E. Anthers and style projecting: bloss. bell-shaped: fruit-stalks with 1 flower. *E. bot.*

*E. bot.* 3.

*Stems* woody, spreading, branched, nearly cylindrical. *Leaf-stalks* very short, pressed close to the stem, glandular at the base. *Leaves* strap-shaped, blunt pointed, edges rolled back so as to form a groove along the middle on the underside. *Flowers* axillary, numerous, mostly pointing one way. *Fruit-stalk* half the length of the flower, with a gland-like joint, and 2 floral-

* The berries made into tarts are much esteemed, but on account of a peculiar flavour, are disliked by some. They may be kept several years, if wiped clean, and then closely corked in dry bottles; or the bottles may be filled with water.—At Longtown, in Cumberland, 20 or 30l.'s worth are sold by the poor people every market day, for 5 or 6 weeks together. LIGHTF. The most general name, Cranberry, probably originated from the fruit-stalks being crooked at the top, and before the expansion of the blossom, resembling the neck and head of a crane.

leaves. *Blossom* from dark purple to rose red, and sometimes white. *Anthers* colour of a mulberry, forked, projecting out of the blossom.

*Cornish*, or *Double-tipped Heath*. Erica *didyma*. Bott. arr. ed. ii. Heaths. Goon Hilly Down, going from Helston to the Lizard Point, Cornwall. RAY. [Near Pendarvis, on the road from Camborn to Hoyle, in the low ground between Tregothan and Connor Downs. Mr. STACKHOUSE.] P. June—Aug.

(3) *Anthers with 2 smooth awns at the base; leaves 4 in a whirl.*

E. Leaves oblong, fringed, cottony underneath: flowers in umbels: caps. fringed, and cottony. Te'tralix.

[*Dicks. h. s.–Curt.–Fl. dan.* 81.

Leaves sometimes 5 in a whirl. *Bloss.* pendent, pointing one way, from pale rose red to quite white.

*Cross-leaved Heath*. Moist heaths. [Norfolk. Mr. WOODW. Hartlebury Common, Worcestershire. Mr. BALLARD.—Worcestershire and Staffordshire. ST. Heaths and bogs near Manchester. Mr. CALEY.] P. July.

(4.) *Anthers with 2 tooth-serrated awns at the base: leaves opposite.*

E. Leaves arrow-shaped. vulga'ris.

*Curt.* 297–*Kniph.* 11–*Walc.–Fl. dan.* 677–*Matth.* 152–*Fuchs.* 254–*Trag.* 952–*Dod.* 767. 1–*Ger. em.* 1380. 1–*Park.* 1482. 5–*Lonic.* i. 37. 1–*Ger.* 1196. 1. 2–*Park.* 1480. 1.

The calyx has close to its base 4 or 5 circular, concave, coloured leaves, fringed with soft hairs; and on the outside of these 2 or 3 others partly resembling these, and partly the leaves of the cup. *Proper cup* coloured, so as in every respect to resemble the blossom, which is of a pale rose colour, sometimes white, not distended: 4 or 5-cleft. *Seed-vess.* inclosed by the proper cup.

*Common Heath*. *Ling*. *Grig*, in Shropshire. *Hether*, in Scotland. Heaths and woods. S. June—Aug.*

* This plant, but little regarded in happier climates, is made subservient to a great variety of purposes, in the bleak and barren Highlands of Scotland. The poorer inhabitants make walls for their cottages, with alternate layers of heath, and a kind of mortar made of black earth and straw, the woody roots of the heath being placed in the centre, the tops externally and internally. They make their beds of it, by placing the roots downwards, and the tops only being uppermost, they are sufficiently soft to sleep upon. Cabins are thatched with it. In the island of Ilay, ale is frequently made by brewing one part malt, and 2 parts of the young tops of heath; sometimes they add hops. Boethius relates, that this liquor

Var. 2. Leaves and branches hoary.
[Enville Common, Staffordshire. Dr. STOKES. Birmingham Heath.]

(5) *Anthers with 2 tooth-serrated awns at the base: leaves 3 in a whirl.*

cine'rea. E. Leaves spear-shaped, entire, smooth: flowers in umbels: egg-shaped: cups finely serrated: branches woolly.

*Curt.-Fl. dan.* 38-*Walc.-Clus.* i. 43. 2-*Lob. obs.* 620. 1-*Ger. em.* 1382. 7-*Park.* 1483. 8-*Ger.* 1198. 7.

Stems woody. Leaves fleshy. *Bloss.* bluish purple. *Style* crimson.

*Fine-leaved Heath.* Dry heaths and grooves. [Heaths near Yarmouth. Mr. WOODWARD. In Staffordshire and North of Worcestershire. ST.] S. June—Aug.

POPULUS. Flowers male and female in catkins on distinct plant. *Calyx* scales ragged: *bloss.* turban-shaped, mouth entire, slanting. Female *summit* 4-cleft: caps. 2-celled: *seeds* many, downy.

al'ba. P. Leaves nearly triangular, toothed and angular; cottony underneath.

*Hunt. evel.* 208; i. *p.* 201. *ed.* II.-*Spect. de la Nat.* 31. 2. *at* ii. *p.* 292-*Nat. delin.* 20. 2, *at* ii. *p.* 312-*Matth.* 136-*Cam. epit.* 65-*J. B.* i. *b.* 160. 1-*Ger.* 1301. 1-*Dod.* 835-*Ger. em.* 1486. 1-*Park.* 1410. 1-*Lob. obs.* 609. 1-*ic.* ii. 193. 1-*Gars.* 467. *A. a.*

*Tree* very tall. *Leaves* without glands, either at the base or serratures. *Flowers* exactly similar to those of *P. tremula.* LINN. *Leaves* smooth and blackish green above, with a white thick cotton underneath. RAY. *Leaf-stalks* flatted, and grooved on each side. *Leaves* less circular than triangular.

liquor was much used by the Picts. *Penn. tour*, 1772. *p.* 229. Woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops of heath, comes out a fine orange colour. The stalks and tops will tan leather. In England besoms are made of it, and faggots to burn in ovens, or to fill up drains that are to be covered over. Sheep and goats will sometimes eat the tender shoots, but they are not fond of them. Bees extract a great deal of honey from the flowers, but where heath abounds the honey has a reddish cast.—In the north of Scotland ropes are made of it as strong, as durable, and nearly as pliant, as hemp. *Garnett's tour, p.* 147.

*White Poplar. Abele Tree.* Hedges, woods, and near brooks. T. March.*

Var. 2. Leaves smaller. Ray.

*Lob. ic.* ii. 193. 2–*Ger. em.* 1487. 5–*Park.* 1410. 2–*J. B.* i. *b.* 160. 2.

No place of growth mentioned either by Ray, or Lightfoot, who cites Gerard's figure. Dr. Stokes.

P. trem'ula. Leaves circular, toothed and angular, smooth on both sides.

*Kniph.* 6–*Blackw.* 248. 2–*Matth.* 139–*Cam. epit.* 67–*J. B.* i. *b.* 163–*Ger.* 1302. 3–*Dod.* 836. 2–*Lob. obs.* 610. 1. *and ic.* ii. 194. 2–*Ger. em.* 1487. 3–*Park.* 1411. 4–*Trag.* 1083–*Lonic.* i. 26. 2.

*Leaves* rolled inwards, with 2 glands running one into the other on the inner side above the base. Linn. *Leaf-stalks* flatted towards the end, whence the trembling of its leaves. Gouan. The same takes place in S. *alba* and *nigra*. The plane of the leaf-stalks is at right angles to that of the leaves, which allows the leaves a much freer motion than could have taken place had their planes been parallel. St. *Leaves* more circular than in the preceding.

*Asp. Aspen. Aspen Tree. Trembling Poplar.*—Moist woods, and in boggy ground. T. March—April.†

P. ni'gra. Leaves trowel-shaped, tapering to a point, serrated, smooth on both sides.

*Blackw.* 548, *and* 248. 1–*Lonic.* i. 26. 1–*Matth.* 137–*Cam. epit.* 66–*Park.* 1410. 3–*J. B.* i. *b.* 155–*Lob. obs.* 609. 2. *and ic.* ii. 194. 1–*Dod.* 836. 1–*Ger. em.* 1486. 2–*Gars.* 467. *B. b.*–*Ger.* 1301. 2–*Trag.* 1080.

*Leaves* without any glands at the base, but the serratures

* It loves low situations, and flourishes best in clay. It grows quick, and bears cropping, but it is unfavourable to pasturage. The wood is soft, white, and stringy, and makes good wainscoting, being but little subject to swell or shrink. Floors, laths, packing boxes, and turners ware are made of it. Horses, sheep, and goats eat it. Cows are not fond of it.

† It will grow in all situations, and in all soils, but worst in clay. It impoverishes the land; its leaves destroy the grass, and the numerous shoots of the roots spread so near the surface of the earth, that they will not permit any thing else to grow. It is easily transplanted. The wood is extremely light, white, smooth, woolly, soft; durable in the air. The bark is the principal food of beavers. The bark of the young trees is made into torches. The leaves and leaf-stalks sometimes are set with red globular substances, about as large as a pea, which are the nests of the *Tipula juniperina*. Sheep and goats eat it; horses and swine refuse it.

glandular on the inner side. *Stamens* as many again as in P. *tremula*. LINN. *Stamens* 16. LEERS. *Leaf-stalks* yellowish.

*Black Poplar.* Near rivers and wet shady places. T. March.*

DAPH'NE. *Calyx* generally none: *bloss.* 1 petal, regular, 4-cleft, funnel-shaped: *drupa* like a berry, 1-celled, superior.

Meze'reum. D. Flowers sitting on the stem, mostly 3 together: leaves spear-shaped, deciduous: berries globular.

*Fl. dan.* 268–*Sheldr.* 62–*Ludw.* 63–*Blackw.* 582–*Kniph.* 1–*Woodv.* 23–*Fuchs.* 227–*J. B.* i. 566–*Dod.* 364. 2–*Lob. obs.* 199. 4–*Ger. em.* 1402. 2–*Park.* 202. 3.

The *terminating buds* produce leaves; the *lateral buds* flowers; which open very early in the spring, often in the winter; and are so thick set as entirely to hide the branches. Their colour a beautiful red. LINN.

*Mezereon. Spurge Olive. Spurge Flax. Dwarf Bay.* Woods near Andover, [and Laxfield, Suffolk. Mr. WOODWARD. Needwood Forest. Mr. PITT.] S. Feb. March.†

* It loves a moist black soil; grows rapidly, and bears cropping. The wood is not apt to splinter. The bark, being light like cork, serves to support the nets of fishermen. The red substance, like berries, upon the leaf-stalks, as large as a cherry, bulging on one side, and gaping on the other, are occasioned by an insect called the *Aphis Bursaria*.—Horses, cows, sheep, and goats eat it.—The several species support the following insects: *Sphinx Populi, Phalæna Vinula, Populi, fascelina*, Orange underwing Moth: *Aphis Populi*; *Chrysomela Polita, populi*; *Curculio Tortrix*; *Cimex Populi*; *Sphinx Apiformis*.

† An ointment prepared from the bark or the berries has been successfully applied to ill-conditioned ulcers. The whole plant is very corrosive; 6 of the berries will kill a wolf. A woman gave 12 grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately. LINN. A decoction made of 2 drams of the cortical part of the root, boiled in 3 pints of water till 1 pint is wasted: and this quantity, drank daily, is found very efficacious in resolving venereal nodes, and other indurations of the periosteum. See Dr. Russel's paper in the *Med. obs.* iii. p. 189.—The considerable and long continued heat and irritation that it produces in the throat, when chewed, made me first think of giving it in a case of difficulty in swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear to do it; and, in about two months, she recovered her power of swallowing. This woman bore the disagreeable irritation, and the ulceration its acrimony occasioned in her mouth, with great resolution; but she had been reduced to skin and bone, and for 3 years before had suffered extremely from hunger, without being able to satisfy her appetite: for she swallowed liquids very imperfectly, and solids not at all. The complaint came on after lying in.—Daphne mezereum, Veratrum album, and Menispermum cocculus are used by fraudulent brewers to communicate an intoxicating quality and strong taste to weak beer;—a practice worthy of execration; and here, and in many other countries, forbidden under severe punishment. *Month. Mag.*

D. Bunches of about 5 flowers, axillary: leaves spear-shaped, smooth. Laure'ola.

*Jacq. austr.* 183–*E. bot.* 119–*Walc.*–*Blackw.* 62–*Lob. obs.* 200. 1–*Ger.* 1404. 1–*Park.* 205. 1–*Ger.* 1219. 1–*Dod.* 365–*Lob. obs.* 200. 2, *&c.*–*J. B.* i. 564.

*Bunches* from the sides of the stem, nodding, clustered into an umbellule. *Floral-leaves* concave, alternate, without any flowers from their base. *Flowers* terminating the bunch. *Bloss.* yellowish green. LINN.

*Spurge Laurel,* or *Laurel Mezereon.* Woods and hedges. [Common in Yorkshire. Needwood Forest; with a variety with variegated leaves. Mr. PITT.] S. March, April.*

D. Flowers terminating, sitting, crowded together: leaves spear-shaped, naked: with a point at the end: berry juiceless. Cneo'rum.

*Gesner* 3. 6–*Pollich.* 4–*Clus.* 90. 1–*Ger. em.* 1596. 4–*Park.* 201. 2–*Matth.* 46. 1.

*Stems* woody, trailing, branched; naked below and rough with the scars of leaves which have fallen off. *Leaves* crowded, irregularly disposed. *Flowers* reddish purple.

Found by Mr. MEYRICK at the foot of Snowdon, about two miles from Beddkelert on the road leading to Caernarvon, not far from the place where the ascent to the summit of Snowdon begins. S. May.

## DIGYNIA.

CO'RYLUS. Male and Female Flowers on the same plant: *bloss.* none.

Male. *Cal.* 1 leaf, 3-cleft, resembling a scale, containing 1 flower.

Fem. *Cal.* 2-leaved, ragged: *nut* egg-shaped.

C. Stipulæ spear-shaped: twigs hairy. Avella'na.

*E. bot.* 723–*Blackw.* 293–*Hunt. evel.* 220; i. *p.* 213. *ed.* II. *Kniph.* 1–*Lonic.* i. 30. 1–*Trag.* 1096–*Matth.* 281–*Park.*

* Very happy effects have been experienced from this plant in rheumatic fevers. It operates as a brisk and rather severe purgative. It is an efficacious medicine in worm cases; and upon many accounts deserves to be better known to physicians; but, in less skilful hands it would be dangerous, as it is possessed of considerable acrimony. The whole plant has the same qualities, but the bark of the root is the strongest. Dr. Alston fixes the outside dose at 10 grains.

1415. 5–*Gars.* 233–*Spect. de la Nat.* 32. 2. *in* ii. *p.* 292 –*Nat. delin.* 20. 4. *in* ii. *p.* 312–*Lob. ic.* ii. 192. 2–*Ger. em.* 1438. 2–*Ger.* 1250. 2–*Fuchs.* 398.

The *styles* being of a vivid crimson have a very beautiful appearance in March, when the catkins expand. Mr. Woodw. *Catkins* in pairs, yellowish green. *Scale,* the middle segment pointed at the end. *Leaves* oval, serrated, wrinkled. *Catkins* green, when out of flower brown.

*Common Hasel-nut Tree.* Woods and hedges. T. Mar. Apr.*

# TRIGYNIA.

## POLYG'ONUM. *Cal.* none: *bloss.* resembling a cup with 5 divisions: *seed* 1, angular; generally naked.

(1) *Stem herbaceous: flowers with* 5 *stamens.*

amphib'ium. P. Style cloven: spike egg-shaped.

Var. 1. *aquaticum.* Leaves floating, blunt, very smooth: stamens shorter than the blossom.

*E. bot.* 436–*Kniph.* 9; *called P. Hydropiper–Ludw.* 168–*Pet.* 3. 12. 6–*Fl. dan.* 282–*Dod.* 582. 1–*Park.* 1254 1 *a* –*H. ox.* v. 29. *row* 2. 1–*Ger. em.* 821. 2–*Park.* 1254. 2–*H. ox.* v. 29. *row* 1. 2. *f.* 4–*Ger.* 675. 2.

* It is frequently planted in hedges and in coppices, to make charcoal for forges. The owners cut them down in equal portions in the rotation of 16 years, and raise regular revenues out of them: often more than the rent of the land, for freeholders of 15l. or 25l. per ann. are known to make constantly 60l. a year from their woods. *Penn. tour.* 1772. p. 29.—The wood is used for fishing rods, walking sticks, crates, hoops for barrels, &c. the shoots for springles to fasten down thatch. The roots are preferred where beautiful wood is required for inlaying or staining. It is a practice in Italy to put the chips of hasel into turbid wine, to clear it, which it does in 24 hours: and in countries where yeast is scarce, they take the twigs of Hasel, and twist them together, so as to be full of chinks: these they steep in ale during its fermentation: then hang them up to dry, and when they brew again they put them into the wort instead of yeast.—Painters and engravers prepare coals for delineating their design thus: they take pieces of Hasel about as thick as a man's arm, and 4 or 5 inches long, dry and then cleave them into pieces about as thick as one's finger. These they put into a large pot full of sand, and then cover the top of the pot with clay. This is exposed in a potter's oven, or any other sufficient degree of heat, and, when cooled again, the sticks are found converted into charcoal, which draws freely, and easily rubs out again. The nuts are agreeable to most people. Squirrels live chiefly upon them. An expressed oil is obtained from them, for the use of painters.—Goats and horses eat the leaves; sheep and swine refuse them.—The Brindle Spider, and December Moths; *Phalæda Populi, Pavonia, Psi, Gonostigma, Attelabus Coryli;* and *Curculio Nucum,* feed upon it.

*Leaves* of a pleasant green, oblong-spear-shaped, glossy, surrounded at the very edge with a reddish line; the younger very minutely serrated. *Flowers* red.

*Perennial Willow-leaved Arsmart. Narrow-leaved Pond weed.* Pools, lakes, marshes, and ditches. P. July, Aug.

Var. 2. *terrestre.* LEERS. Stem upright: leaves somewhat pointed, rough: stamens about as long as the blossom.

*Curt.* 223–*Pet.* 3. 12. *a.*

*Leaves* darker green.

*Amphibious Snakeweed.* In cultivated ground, but very seldom flowering, except in spots where water has settled. [On the side of a piece of water, the flowering stem growing on the land, and other branches from the same root floating in the water. ST.] P. Sept.

(2) *Flowers with* 6 *stamens: capsule of* 1 *cell.*

P. Flowers with cloven pistils: stipulæ somewhat fringed: leaves spear-shaped. Hydropi'per.

*Curt.–Blackw.* 119–*Fuchs.* 843–*J. B.* iii. 780–*Pet.* 3. 5–*Matth.* 583.

The leaf-scale sheaths tight round the stem, lopped, ripped, the ribs terminating in bristles forming a fringe. *Leaves* very thin, smooth on each side, edge very entire, but serrated as it were with bristles laid to the edge, and scarcely perceptible. LINN. *Leaves* spear-shaped, waved, not spotted. *Spikes* very slender, nodding. CURT. *Spikes* drooping, even before flowering. Mr. WOODWARD. Whole *plant* sprinkled with minute glandular dots, but even with the surface, and more obvious with a moderate than a higher magnifying lens, probably the seat of its very acrid property. *Spikes* long, slender, pendent. *Flowers* green, red towards the end. ST.

*Water Pepper. Arsmart. Lakeweed. Biting Snakeweed.* Watery places, on the sides of rivulets, lakes, and ditches. A. July—Sept.*

P. Flowers with slightly cloven pistils: leaves strap-spear-shaped: stem creeping at the base. mi'nus.

* The whole plant has an acrid, burning taste. It cures little apthous ulcers in the mouth. It dyes wool yellow. The ashes of this plant, mixed with soft soap, is a nostrum in a few hands, for dissolving the stone in the bladder: but it may be reasonably questioned whether it has any advantage over other semi-caustic preparations of the vegetable Alcali. Its acrimony rises in distillation, and the distilled water drank to the amount of 2 or 3 half pints daily, has been found very effectual in some nephritic cases. Horses, cows, goats, sheep and swine refuse it.

*Curt.–Lob. obs.* 171. 2–*Ger. em.* 446. 3–*Park.* 857. 4–*H. ox.* v. 29. *row* 3. 5. *f.* 1–*Pet.* 3. 6.

*Stems* several, 9 inches to a foot high. *Leaves* almost veinless. *Spikes* slightly nodding. *Style* sometimes slightly cloven into 3. CURT. *Leaves* not acrid. ST. *Spikes* slender, short; flowers few, reddish. *Summits* 2, sometimes 3.

*Persicaria angustifolia ex singulis geniculis florens. R. Syn.* 145. *P. Persicaria β and δ.* LINN. *Creeping Snakeweed.* Moist and watery meadows. [Tothill Fields, Westminster. HUDS. CURT. Gravel pit on Malvern Chace with P. Hydropiper. ST.]

A. Sept.

Persica'ria. P. *Styles* 2: spikes egg-oblong: leaves spear-shaped: stipulæ fringed.

*Kniph.* 4–*Fl. dan.* 702–*Walc.*–*Curt.*–*E. bot.* 756–*Pet.* 3. 7–*Blackw.* 118–*Dod.* 608. 2–*Lob. obs.* 171. 1–*Ger. em.* 445. 1–*Park.* 857. 1–*Ger.* 361. 1–*Trag.* 90.

Pistils half cloven: fruit-stalks smooth: stipulæ fringed; spikes egg-oblong, upright. *Flowers* of a bright rose-colour. *Germen* oval and flatted, or 3-square. *Style* often cloven half way down into 3 parts, and, when this is the case, the germen and seed are 3-square. *Seed* egg-shaped, and slightly convex on one side, or 3-square. CURT. *Leaves* nearly smooth, but with very minute bristles lying along the edge. *Leaf-scales* sheathing, ribbed. *Common fruit-stalks* springing from the sheathing leaf-scales at the joints of the stem. *Flowers* 3 or 4 together, included in a membranaceous fringed sheath, on short fruit-stalks of different lengths, which are again inclosed by skinny sheaths. *Bloss.* segments concave, unequal. *Stam.* sometimes 5 and 7. *Anthers* sometimes 2 upon one filament. *Style* cloven nearly half way down. *Summits* globular.

*Dead* or *Spotted Arsmart. Spotted Snakeweed.* Ditches, on the side of water, and not unfrequently in corn fields.

A. July—Sept.*

pal'lidum. P. Pistils 2: stipulæ not fringed: fruit-stalks rough with glands: seeds depressed on each side. CURT.

*Curt.–Lob. ic.* 315. 1–*Pet.* 3. 11–*Fuchs.* 630–*Trag.* 91–*J. B.* iii. 779. 2–*Lonic.* i. 162. 1–*Dod.* 608–*Ger. em.* 445. 2–*Park.* 857. 2–*H. ox.* v. 29. *row* 2. 2.

*Stem* upright, 3 feet high, of the thickness of one's finger. *Leaves* of a palish green, with a kind of mealiness, sometimes

* Its taste is slightly acid and astringent. Woollen cloth dipped in a solution of alum obtains a yellow colour from this plant. Goats, sheep, and horses eat it. Cows and swine refuse it. LINN.

spotted, sometimes not. *Spikes* thicker than those of *P. Persicaria*, heavy, and, in consequence of their weight, often hanging down. *Seeds* larger than those of *P. Persicaria*. RAY. *Stem* cylindrical, smooth. *Leaves* egg-spear-shaped, smooth above; the uppermost dotted underneath with minute glands, the lowermost covered with a kind of down; sometimes with, and sometimes without spots. *Leaf-stalks* hairy underneath, with a slight roughness to the touch. *Leaf-scales* more strongly ribbed than in *P. Persicaria*. *Fruit-stalks* beset with minute yellowish globular glands, on exceedingly short foot-stalks. *Spikes* oval, when the seeds are ripe drooping. *Flowers* greenish, set close together. *Seed* flat, with a depression in the middle of each side, sometimes obtusely triangular. CURT. *P. lapathifolium* Sp. pl. according to Sibthorpe; but it does not agree with Ray's description of that plant, see *Ray Hist.* iii. 119, nor are the stamens as tall as the blossom, though it is well represented by the figure in *Lob. ic.* 315. 1. which is also quoted by Linnæus. *P. pensylvanicum*. CURT. and HUDS. ed. i. but not the P. *pensylvanicum* of LINN.

*Pale flowered Snakeweed.* Dunghills, corn fields, and sometimes on the side of water. A. Aug.

Var. 2. *Stem* and *flowers* red, but not so beautifully bright as those of *P. Persicaria*. Like the preceding in every other respect. CURT.

Dunghills with variety 1, and also in corn fields.

Var. 3. *Flea bitten.* Stem spotted with red. CURT.

*Curt. P. pens. caule maculato.*

Comes near to a distinct species. *Stem* spotted with red. *Spikes* much slenderer, even more so than those of *P. Persicaria*, red, but not so bright as those of the *Persicaria*. *Leaf-stalks* rough, underneath. Leaves generally white underneath. If not attentively examined will be taken for the *P. Persicaria*. CURT. *Spikes* of a dull rusty red on the side opposed to the sun, pale green on that not exposed to the sun. *Flowers* when in blossom whitish green, becoming tinged more or less with red as the seed advances to maturity. *Stem* like that of *P. Persicaria*, and *pallidum*, spotted with small oblong spots resembling flea-bites. *Leaves*, the *upper* smooth and dotted underneath; the *lower* spread over with a thin bluish white down, not dotted. *Leaf-stalks* of the lower leaves smooth. *Spikes* oblong, and egg-oblong.

*P. Persicaria.* POLLICH. LEERS. *n.* & HUDS. Ditches about St. George's Fields often with P. Persicaria, and on the watery parts of Blackheath and Peckham Rye. Dunghills, and in a ditch on Stourbridge Common. ST. A. Sept.*

* Sparrows and other small birds are very fond of the seeds of all the varieties. CURT.

Var. 4. Leaves hoary underneath. RAY.
*Pet.* 3. 8.

*Willow-leaved.* Corn fields, and other situations where the soil is not very rich.

(3) *Flowers with* 8 *stamens and* 3 *pistils: spike single: stem undivided.*

Bistor'ta. P. Leaves egg-shaped, extended at the base along the leaf-stalks.

*E. bot.* 509–*Ludw.* 31–*Kniph.* 1–*Curt.*–*Blackw.* 254–*Mill.* 66–*Fl. dan.* 421–*Woodv.* 34–*Sheldr.* 111–*Clus.* ii. 69. 1–*Dod.* 333–*Lob. obs.* 156. 3–*Ger. em.* 399. 1–*H. ox.* v. 28. *row* 3. 2–*Matth.* 946–*Park.* 392. 1–*Fuchs.* 773–*Trag.* 321–*J. B.* iii. 539. 1–*Lonic.* i. 202. 3–*Fuchs.* 774–*J. B.* iii. 538–*Ger.* 322. 1 *and* 3.

*Upper-leaves* arising from long sheaths inclosing the stem. Mr. WOODWARD. *Sheaths* of the leaf-stalks sometimes rising above the insertion of the leaf-stalks to half the length of the leaves. ST. *Root-leaves* extended down the leaf-stalks. *Stem-leaves* sheathing the stem. *Flowers* in a spike. *Common calyx* of 2 valves, skinny, the one large, lopped, the other smaller and terminated by a skinny projection. *Flowers,* 2 within each common calyx, one of them on a fruit-stalk, the other sitting, surrounded with a kind of proper cup, thin, skinny, nearly cylindrical; mouth even and very entire. *Blossom* with 5 divisions, pale red. *Anthers* double, the 2 parts being only united by the filaments.

*Great Bistort,* or *Snakeweed.* Moist meadows in the northern counties. Bishop's Wood near Hampstead and Battersea. [Brome, Norfolk. Mr. WOODW. Ham Green near Mathon and Martley, Worcestershire. Mr. BALLARD. Near Derby. Mr. WHATELY. Near the Infirmary, Stafford. In the Garlic Meadows, near Penn's Mill, Erdington, Warwickshire.]

P. May, June.*

vivip'arum. P. Leaves spear-shaped: spike terminating.

*E. bot.* 669–*Fl. dan.* 13–*Kniph.* 2–*Clus.* ii. 69. 2–*Ger. em.* 399. 2–*Park.* 392. 4–*Ger.* 322. 2–*J. B.* iii. 539. 2–*Pluk.* 151. 2.

* The root is one of the strongest vegetable astringents. The young shoots are eaten in herb pudding in the north of England: ST. and about Manchester they are substituted for greens, under the name of Patience Dock. Mr. CALEY.

Lower flowers of the *spike* frequently changed into vegetating bulbs. LINN. *Stem-leaves* strap-shaped, arising from a sheath. *Sheaths* inclosing the stem, terminated by a blunt membrane. Mr. WOODWARD. *Bulbs* darkish purple, egg-shaped, sometimes intermixed with the flowers, mealy and white within. ST. *Blossom* whitish.

*Small Bistort. Viviparous Snakeweed.* Mountainous pastures. Crosby Ravensworth, and other places in Westmoreland; near Settle, Yorkshire, and Scotland. [Edge of Semer Water at Carr End, Wensley Dale. CURT. In the fields between Shap and Hardingdal, Westmoreland. Mr. GOUGH.] P. June.*

Var. 2. HUDS. Root-leaves roundish and minutely serrated. Stem about 4 inches high. RAY.

*H. ox.* v. 28. 3. *and* 5–*Park.* 392. 6.

Pastures on a high rock called y Grib Goch, above the Lake Ffynnon Frech near Llanberys.

(4) *Flowers with* 8 *stamens and* 3 *pistils: spike single: stem branched.*

P. Flowers axillary: leaves spear-shaped: stem trailing. avicula're.

Var. 1. *latifolium.* RETZ. Broad-leaved.

*Curt.* 1, 10–*Fuchs.* 614–*J. B.* iii. 375. 1–*Trag.* 391–*Blackw.* 315–*Fl. dan.* 803–*Matth.* 951–*Dod.* 113. 1–*Lob. obs.* 228. 3–*Ger. em.* 565–*Park.* 443. 1–*H. ox.* v. 29. *row* 3. 1–*Pet.* 10, 1–*Ger.* 451–*Lon.* i. 168. 3–*Walc.* 5, *Convolvulus.*

Stem scored, thickest at the joints, and separating when pulled. *Leaves*, some egg and some spear-shaped. *Flowers* 2, or 3 together, in the bosom of the leaves. *Fruit-stalks* short, but 2 of them longer. *Calyx* double, skinny; the *outer* with 5 spear-shaped segments inclosing the 3 florets; the *inner* incloses only the 3d floret, and sometimes the rudiment of a 4th. *Bloss.* greenish on the outside, white within, often tinged with pink.

*Knotgrass Snakeweed.* Road sides, paths, streets, corn fields, especially in a gravelly soil. A. or B. April—Sept.†

Var. 2. *brevifolium.* RETZ. Leaves oblong: stamens 7.

*Ger.* 451. 2–*Pet.* 10. 3.

*Leaves* about 1-4th of an inch long.

* Plants cultivated for 4 years in a garden, constantly produced perfect seeds in July, and flowered as constantly a second time in September. These latter germs vegetated on the stem. Mr. GOUGH.

†, The seeds are useful for every purpose in which those of the next species are employed. Great numbers of small birds feed upon them. Cows, goats, sheep, horses and swine eat it. The stubbles in Sweden are purpled over with this plant. LINN. It affords nourishment to the *Chrysomela Polygoni.*

In gravelly spots, and road sides. [Sandy road near Ingestre Heath, Staffordshire. ST.]

Var. 3. *angustifolium*. RETZ. Leaves strap-shaped.

*Pet.* 10. 4.

*Leaves* very slender.

Camberwell, and amongst corn in Houndfield by Pounders-end. RAY.

Var. 4. HUDS. Leaves oval.

*Pet.* 10. 2.

Uncultivated places. RAY. [Near Coleshill, Warwicksh. ST.]

OBS. No plant varies more in the shape and size of the leaves, from strap-shaped to oval, and in breadth from a line to $\frac{1}{2}$ inch. Mr. WOODWARD.

Var. 5. HUDS. *P. maritimum*. Stamens 8: styles 3: flowers axillary: leaves oval egg-shaped, evergreen: stem somewhat shrub-like. LINN.

*J. B.* iii. 377. 1–*Pet.* 10. 5–*H.* v. 29. *row* 3. 3–*Lob. adv.* 179.

So nearly allied to P. *aviculare* as scarcely to be distinguished from it. *Flowers* in fours. *Stem* flatted on one side, shorter, hard, perennial. *Leaves* egg-shaped, leather-like, turning bluish in drying. LINN. S. LINN.

(5) *Leaves somewhat heart-shaped.*

Fagopy'rum. P. Leaves heart-arrow-shaped: stem nearly upright; without prickles: angles of the seeds equal.

*Dod.* 512–*Lob. obs.* 513. 3–*Ger. em.* 89–*Park.* 1141–*H. ox.* v. 29. *row* 1. 1, *f.* 1–*Pet.* 2. 12–*Trag.* 648–*J. B.* ii. 998–*Ger.* 82. 2–*C. B. th.* 530–*Lonic.* i. 253. 1 *and* 2.

*Bloss.* purplish white. Flowering *spikes* shorter than the leaves.

*Buck Wheat. Snakeweed. Bucke. Branks. French Wheat. Crap.* Corn fields. A. July, Aug.*

* This plant is very impatient of cold, dying at the very first attack of frost. The seeds furnish a nutritious meal, which is not apt to turn acid upon the stomach. It is made into thin cakes in some parts of England, called Crumpits. It is usual with farmers to sow a crop of Buckwheat, and to plough it under, when fully grown, as a manure to the land. The seeds are excellent food for poultry. Sheep that eat this plant become unhealthy. As it flowers late in the summer, M. Du Hamel, in his observations upon the management of bees, advises to move the hives in the autumn, to a situation where plenty of this plant is sown. Cows, goats, and sheep eat it; swine and horses refuse it.

P. Leaves heart-shaped: stem twining, angular: flowers blunted. convol'vulus.

*Curt.* 253–*Fl. dan.* 744–*Ger.* 713. 4.

*Leaves* arrow-shaped, the angles at the base sometimes lopped. Flowering *spikes* longer than the leaves. *Blossoms* greenish white. *Anthers* red.

*Black Bindweed. Climbling Snakeweed.* Corn-fields, gardens, and hedges. A. June—Sept.*

## TETRAGYNIA.

PA'RIS. *Calyx* 4-leaved: *petals* 4, narrower: *berry* 4-celled.

P. Stem-leaves generally 4. quadrifo'lia.

*Kniph.* 12–*Fl. dan.* 139–*E. bot.* 7–*Blackw.* 286–*Matth.* 1093–*Dod.* 444–*Lob. obs.* 137. 2–*Ger. em.* 405. 1–*Ger.* 328. 1–*Pet.* 44. 8–*Fuchs.* 87–*J. B.* iii. 613–*Park.* 390. 1–*H. ox.* xiii. 3. 6.

*Root* somewhat fleshy. *Stem* naked. *Leaves* shining. *Flower* 1. LINN. *Leaves* from 1 to 7; plants with 1, 2, 3, and 4 leaves barren; with from 3 to 7 bearing a flower. *Calyx* sometimes with only 3 leaves. Mr. CALEY. *Leaves* mostly 4, egg-shaped, tapering to a point, fixed to the top of the stalk. *Styles* purplish black, hardly so long as the berry. *Blossoms* pale green.

*Herb Paris. True-love. One-berry. Four-leaved True-love.*—Woods and shady places. [Wood near the Devil's Den near Clifton upon Teme, Worcestershire. Mr. BALLARD. Woods on the sides of Breedon Hill, Worcestershire. NASH. Ripton Wood, Huntingdonshire. In Norfolk, rare. Mr. WOODWARD. Love Lane, near Derby, Mr. WHATELY. Wood of Methven, Perthshire. Mr. MILLAR. Near Gainford, and in Raby Park. Mr. ROBSON. About Frankly Worcestershire.] P. May, June.†

ADO'XA. *Cal.* cloven; beneath: *bloss.* 4 or 5-cleft; superior: *berry* 4-celled, united to the calyx.

* The seeds are quite as good for use as those of the preceding species, are produced in greater quantity, and the plant bears cold better. Cows and goats eat it: sheep, swine, and horses refuse it. LINN. A horse eat it. ST. The *Phalæna Lubricipeda* is found upon several of the species.

† The leaves and berries are said to partake of the properties of Opium. The juice of the berries is useful in inflammations of the eyes. Linnæus says the roots will vomit as well as Ipecacuanha, but it must be given in a double quantity.

Moschatel'-lina. A.

*Dicks. h. s.-E. bot.* 453-*Fl. dan.* 94-*Curt.* 137-*Kniph.* 8 *J. B.* iii. 206-*H. ox.* iv. 28. 14-*Walc.-Ger.* 933. 10-*Park.* 62. 1-*Lob. adv.* 300. 1. *and ic.* i. 674. 2-*Ger.* 1091. 10-*Park.* 326. 6.

*Root-leaves* generally 4, alternate from 2 rows, doubly 3-fold: *leafits* lobed, cut, smooth. *Leaf-stalks* channelled. *Stem* of the length of the leaves, undivided, nearly 4-square. *Stem-leaves* 2, opposite, 3-fold; *leafits* on leaf-stalks. *Fruit-stalks* quadrangular, bare, terminating. *Head* 4-cornered, composed of 4 flowers in a whirl, with a 5th at the top. *Flowers* green. LINN. *Root-leaves* triply 3-fold; *leafits* 3-lobed. The *calyx* in the uppermost flower has only 2 lobes, the bloss. 4-cleft, the stamens 8, and the pistils 4; but the lateral flowers have a 3-cleft calyx, a 5-cleft blossom, 10 stamens, and 5 styles. *Berry* green, reddish when quite ripe.

*Taberous Moschatel.* Damp woods, and shady places, not uncommon. [In the wood on the S. W. side of the Pool at Edgbaston, plentiful. In the woods to the North of Aston Park, near Birmingham.] P. April, May.

ELAT'INE. *Cal.* 4-leaved: *petals* 4: *caps.* 4-celled, 4-valved, flatted.

Alsinas'-trum. E. Leaves in whirls.

*Vaill.* 1. 6.

*Leaves* 8 to 12 in a whirl. HALL. Mr. WOODWARD. *Flowers* white.

*Waterwort.* Ditches and bogs. P. August.

QUER'CUS. Male and Fem. Flowers on the same plant. *Bloss.* none.

Male *Calyx* 5-cleft *stamens* from 5 to 10.

Fem. *Cal.* 1 leaf, very entire, rough; *styles* from 2 to 5: *nut* egg-shaped, leather-like, of 1 seed, and, when ripe, of 1 cell.

ro'bur. Q. Leaves on leaf-stalks, oblong, broadest towards the end, indentations rather acute, angles blunt: fruit nearly sitting.

*Ludw.* 69-*Hunt. evel. p.* 69-*Woodv.* 126-*Gars.* 480-*Dod.* 823. 1-*Lob. obs.* 582. 3, *and ic.* ii. 154. 2-*Ger. em.* 1340. 2-*Park.* 1390. 1-*Lob. obs.* 583. 2, *and ic.* ii. 155. 2-*Kniph.* 2-*Matth.* 204-*J. B.* i. *b.* 85-*Lob. obs.* 583.

1—*ic.* ii. 155. 1–*J. B.* i. *b.* 88–*Ger.* 1156. 1–*J. B.* i. *b.* 70. 2–*Lonic.* i. 31. 2–*Fuchs.* 229–*J. B.* i. *b.* 70. 1–*Trag.* 1102–*Spect. de la nat.* 25. 1, *at* ii. *p.* 283–*Nat. delin.* 17, 1, *at* ii. *p.* 311.

*Leaves* appear later than in the next species, and the *flowers* come out later. *Fruit* later. *Acorns* 4 to 12 together, on some trees, egg-shaped, in others oblong, taper-pointed. *Wood* reddish, brittle. Du Roi. *Leaves* deeper green, and not so deeply indented. Ray. Frequently retains its leaves all winter. Mr. Woodward.

*Q. Robur* β Huds—*Q. latifolia mas, quæ brevi pediculo est.* R. Syn. 440.–*Bay-Oak* about Newberry. *R. Syn.* Bagley-Wood, and other places. Bobart in *R. Syn.*—Common but less so than the next species. Mr. Woodward. T. April.

Q. Leaves oblong, on short leaf-stalks, blunt, wing-cleft with indentations: fruit mostly solitary, on long fruit-stalks. *fœmina.*

*Fl. dan.* 1180.

*Leaves* not so deeply indented, nor the indentures so irregular, as in the preceding, but opposite. Trees raised from acorns of this sort produced acorns and retained all the marks of their parent tree. Mill. *Leaves* of a deeper green than in the preceding and narrower towards the end. Acorns from 1 to 3 joined together. Wood whitish, hard. Du Roi. Male fl. *Calyx* 6 to 8-cleft nearly corresponding to the number of stamens. *Stam.* 7 to 9, but mostly 8. Fem. fl. *Cal.* tiled, composed of about 20 spear-egg-shaped membranaceous coloured leaves. *Styles* mostly 3, bent back. St. In the midland counties the fruit-stalks are 5 or 6 times as long as the leaf-stalks.

By the Boat-house in Edgbaston Park.

*Quercus Robur* α Huds.—Woods and hedges. [Not so common as the Q. Robur, but in the wilds of Kent and Sussex I have seen many large trees of it. Its timber is accounted better than that of the Q. Robur. Mill.] T. April.

Some of the figures referred to under the preceding species belong to this, particularly that of Hunter's Evelyn's Sylva, but in general they are so ill drawn, and with so little attention to the specific differences, that it is hardly possible to refer them with any degree of certainty. The following remarks also belong to both the species.*

* The Oak loves hilly better than boggy ground, and thrives best, while young, in large plantations. Its roots descend deep into the earth, and therefore will not bear to be transplanted. Much lopping destroys it. Grass will hardly grow beneath it.—The wood is hard, tough, tolerably

RHODI'OLA. Male and Fem. flowers on different plants. *Cal.* with 4 divisions.
Male, *Bloss.* 4 petals.
Fem. *Bloss.* none: *nectaries* 4: *Caps.* 4, many-seeded.

ro'sea. R.

*E. bot.* 508–*Fl. dan.* 183–*Blackw.* 586–*Matth.* 1024–*Clus.* i. 65. 1–*Dod.* 347. 2–*Lob. obs.* 212. 3; *ic.* i. 391. 1–*Ger. em.* 532–*Park.* 727–*H. ox.* xii. 10. 8–*Pet.* 42. 2–*Kniph.* 2–*Ger.* 426–*Cam. epit.* 769–*Fuchs.* 665–*Trag.* 913–*J. B.* iii. 683–*Lonic.* i. 62 1.

A *female* plant cultivated by itself in a garden produced small unproductive seeds. LINN. *Nectaries* 5. *Stamens* 6, 8, or

lerably flexible; not easily splintering; and therefore is preferred before all other timber for building ships of war. It is well adapted to almost every purpose of the carpenter; but an attempt to enumerate all the uses of this well known wood, would be equally superfluous and difficult.—Oak saw-dust is the principal indigenous vegetable used in dying fustian. All the varieties of drabs, and different shades of brown, are made with Oak saw-dust, variously managed and compounded.—The balls, or Oak-apples, are likewise used in dying, as a substitute for galls. The black got from them, by the addition of copperas, is more beautiful than that from galls, but not so durable.—The bark is universally used to tan leather. Its astringent properties may be turned to good account in many medical indications. An infusion of it, with a small quantity of copperas, is used by the common people to dye woollen of a purplish blue: the colour, though not very bright, is durable. The balls, or galls upon the leaves, are occasioned by a small insect with four wings, called *Cynips quercifolii*, which deposits an egg in the substance of the leaf, by making a small perforation on the under surface. The ball presently begins to grow: and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect with four wings.—Horses, cows, sheep, and goats eat the leaves. Swine and deer fatten on the acorns.

The *Papilio Iris*, *Quercus*; *Phalæna Vinula*, *Quercus*, *Monacha*, *dispar*, *chrysorrhœa*, *pudibunda*, *Os*, *lubricipeda*, *quadra*, *pacta*, *Psi*, *Bucephala*, *Lacertinaria*, *Viridana*, *Prasinana*, *Amataria*, *Phalæna nupta* and *Vindata*; *Cynips Quercus Baccæ*, *Quercus folii*, *Quercus petioli*, *Quercus Gemmæ*; *Chermes Quercus*; *Aphis Quercus*; *Curculio Quercus*, feed upon it. LINN.—An Oak tree in the parish of Little Shelsley, Worcestershire, measured in circumference about 2 yards from the ground 22 feet 4 inches, and close to the ground nearly 48 feet. Mr. HOLLEFEAR.—In one growing in 1764, in Broomfield Wood, near Ludlow, Shropshire, the trunk measured 68 feet in girth, and 23 in length, and which, allowing 90 square feet for the larger branches, contained 1455 feet of timber. LIGHTFOOT.—The girth of the Green Dale Oak, near Welbeck, at 11 feet from the ground, was 38 feet; and one growing at Cowthorpe, near Wetherby, Yorkshire, measured 48 feet in circumference at 3 feet from the ground, and 78 feet close to the ground. HUNT. *evel.* with a figure of the former at ii. p. 200, and of the latter at p. 197. In the year 1757, an Oak in Earl Powis's Park, near Ludlow, measured 16 feet 3 inches at 5 feet from the ground, and its trunk rose full 60 feet quite straight and clear of branches. *Bath Soc.* i. Mr. MARSHAM.

12. Fabric. *Stems* numerous, simple 4 to 10 inches high, cylindrical, smooth, hollow. *Leaves* numerous, growing without order, egg-shaped, egg-spear-shaped, and in the younger plants spear-shaped; upwards distantly serrated, towards the base very entire, fleshy, sea-green, sometimes tinged with purple. *Stamens* much longer than the blossom. *Styles* very short, pointing outwards permanent. Habit that of *Sedum Telephium*. *Root* white. *Stem* simple, upright, leafy. *Leaves* serrated. *Blossoms* terminating, yellow.

*Yellow Rose-wort. Rose-root.* Mountains of Westmoreland, Cumberland, Yorkshire, and Wales. [On a rock on the summit of Ingleborough, to the North West; and on a mountain called the Old Man, at Coniston Water Head. Mr. Woodward.—High-street, Westmoreland, on the edge of a precipice called Blea Water Cragg. Mr. Gough.—Near Mr. Rigge's slate quarry, in Conistone. Mr. Jackson.] P. June, July.*

## MYRIOPHYL'LUM. Male and Fem. flowers frequently on the same plant. *Cal.* 1 leaf, 4-toothed: *petals* 4, with claws: soon falling off: *styles* none: *nuts* 2 to 4, covered with a coat.

M. Spikes interrupted, leafless. spica'tum.

*E. bot.* 83–*Fl. dan.* 681–*C. B. pr.* 73. 1–*Park.* 1257. 7–*J. B.* iii. 783. 1–*Pet.* 6. 5.

*Flowering Spike* rising above the water. *Whirls* 6 or 8, the upper of male flowers, somewhat crowded, the lower of fem. flowers more distant. *Petals* oval, concave, purplish without, shedding. *Summits* expanding cross-wise. Mr. Woodward. *Stems* simple, or branched; divided within into about 16 hollow cells. *Leaves* winged, fan-shaped, 4 in a whirl; *leafits* awl-shaped. *Flowers* 4 in a whirl; the males the uppermost, and some of them containing the rudiments of 4 germens.

*Spiked Water-Milfoil.* Ditches ponds, lakes and still water. P. May—July.

Var. 2. Huds. Broadish entire leaves at the base of the whirls. Bobart in *H. ox.*

M. Flowers in leafy whirls. verticilla'tum.

*Fl. dan.* 1046–*E. bot.* 218–*Clus.* ii. 252. 1–*Park.* 1256. 3–*J. B.* iii. 783. 2–*Pet.* 6. 8.

* The root has the fragrance of a Rose, particularly when dried; but cultivated in a garden, it loses most of its sweetness. Goats and sheep eat it. Cows and swine refuse it.

In muddy ditches, with little water, it appears as follows. *Stems* 6 or 8 inches high, unbranched. *Leaves* not more than an inch long; leafits $1\frac{1}{2}$ or 2 lines long. In ponds as follows. *Stems* branching, 2 feet and more long. *Leaves* under water $1\frac{1}{2}$ to 2 inches long; leafits half an inch long, hair-like and slender. *Spike* 6 or 7 inches long, with 12 to 16 or more whirls, the lower ones about half an inch distant, the upper nearer, with 4 or 5 winged leaves at each whirl, about half an inch long, leafits about 1 line long. *Flowers* in the bosom of the leaves, similar to those of M. *spicatum*; those of the upper whirls usually male; those of the lower female, and sometimes the upper male, the middle one hermaphrodite, and the lower female, Mr. WOODWARD. *Flowers* greenish. *Anthers* yellow.

*Whirled Millfoil.* Ditches and stagnant waters. HUDS.—rare. PET.—[Ditches near Bungay, Suffolk, and near Yarmouth. The large sort in a pond at Hedenham, Norfolk, on a strong clayey soil. Mr. WOODWARD.] P. June, July.

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# CLASS IX.

# ENNEANDRIA.

## DIGYNIA.

MERCURIA'LIS. *Flowers*, male and female on distinct plants: *Cal.* with 3 divisions: *Bloss.* none.

M. *Stem.* 9 to 12: *Anthers* globular; double.

F. *Caps.* 2, united; each with 1 cell and 1 seed.

[Quercus.]

## HEXAGYNIA.

BU'TOMUS. *Involucr.* simple; of 3 leaves: *Bloss.* 6 petals: *Caps.* 6: *Seeds* many.

HYDRO'CHARIS. *Flowers* male and female on distinct plants: *Cal.* 3-cleft: *Bloss.* 3 petals.

M. *Sheath* 2-leaved: *Filaments*, the 3 inner ones bearing a kind of style.

F. *Caps.* 6-celled; many-seeded; beneath.

## DIGYNIA.

MERCURIA'LIS. Male and fem. flowers on different plants: *bloss.* none: *calyx* with 3 divisions.

Male. *Stamens* from 9 to 12: *anthers* globular, double.

Fem. *Caps.* double, 2-celled, 1 seed in each.

M. Stem undivided: leaves rough. peren'nis.

*Curt.–Walch.–Kniph.* 1, *male plant. Fl. dan.* 400–*Mill. ill.* –*Cam. epit.* 999, *male*; 998, *female–Fuchs.* 444–*J. B.* ii. 979. 1–*Trag.* 191–*Lon.* i. 136. 3–*Pet.* 1. 6–*Dod.* 659. 1–*Lob. obs.* 132. 1. *and ic.* i. 260. 1–*Ger. em.* 333. 1–*Park.* 296. 2–*Pet.* 1. 5–*J. B.* ii. 979. 2–*H. ox.* v. 34. 3, 4–*Matth.* 1299.

Male spikes longer than the leaves; fem. spikes shorter. Mr. WOODWARD. Male flowers in spikes, from the bosom of the upper leaves. Fem. flowers on fruitstalks, generally solitary. *Anthers*, 2 upon each filament. *Flowers* yellow green.

*Dogs Mercury.* Woods, hedge banks.—Male and female plants rarely intermixed, each sort usually growing in large patches, whence it is probable that this plant, which propagates itself so much by roots, rarely produces perfect seeds. Mr. WOODWARD. P. April, May.*

M. Stem branching: leaves smooth: flowers in spikes. an'nua.

Male plant.—*Curt.* 336. 2–*Cam. epit.* 996–*Fuchs.* 476–*J. B.* ii. 977. 2–*E. bot.* 559.–*Trag.* 190–*Ger.* 262. 1–*Dod.* 658. 1–*Lob. obs.* 131. 1. *and ic.* i. 259. 1–*Ger. em.* 332. 1–*Park.* 295–*Pet.* 1. 8–*H. ox.* v. 34, *row* 1. 1–*Blackw.* 164. 4, &c.–*Lon.* i. 136. 2–*Gars.* 382–*Matth.* 1297.

Fem. plant–*Curt.* 336. 1–*Fuchs.* 473–*J. B.* ii. 977. 3–*Trag.* 190–*Blackw.* 162. 2 *and* 3. 1–*Cam. epit.* 997–*Dod.* 658. 2–*Lob. obs.* 131. 2, *and ic.* i. 259. 2–*Ger. em.* 332. 2–*Pet.* 1. 7–*H. ox.* v. 34–*row* 1. 2–*Ger.* 262. 2–*Gars.* 382–*Matth.* 1298.

* It is noxious to sheep, and deleterious to man. Ray relates the case of a man, his wife, and three children, who experienced highly deleterious effects from eating it fried with bacon.—Sheep and goats eat it; cows and horses refuse it.—In drying it turns blue. LINN.—and steeped in water it affords a fine deep blue colour, but which unhappily is destructible both by acids and alkalies, and recoverable by no means that I have been able to discover. ST.

Barren spikes much shorter than the fertile ones. Mr. Robs. Some male plants bear a few female flowers. *Calyx* smooth in the male, hairy in the female flowers. *Stamens* sometimes 16 or more.

*French Mercury.* Waste places and dunghills about towns and villages. [Near Norwich, and at Lowestoft, Suffolk. Mr. Woodward. Near Sunderland. Mr. Robson.] A. Aug. Sept.*

## HEXAGYNIA.

BU'TOMUS. *Involucrum* simple, of 3 leaves: *petals* 6; *caps.* 6; many-seeded: *seeds* fixed to the sides of the capsules.

umbella'tus. B.

*Curt.*–*E. bot.* 651–*Kniph.* 7–*Fl. dan.* 604–*Walc.*–*Ger.* 27. 2–*Matth.* 1037–*Dod.* 601. 1–*Lob. obs.* 44. 2–*Ger. em.* 29. **2–*Park.* 1197. 1–*H. ox.* xii. 5. *row* 3. *f.* 3–*J. B.* ii. 524.

*Leaves* 3-cornered, very long. *Involucr.* of 3 brown spear-shaped leaves. *Fruit-stalks* forming an umbel; long, thread-shaped, unequal, separated by brown membranaceous leaves. *Stamens* placed in a regular circle upon the receptacle, not as in the generic character. *Stem* cylindrical, naked. *Blossoms* purple and white, terminating, sometimes quite white.

*Flowering Rush. Water Gladiole.* Slow streams. and muddy ditches. [Skern, near Darlington. Mr. Robson. Side of the river Avon, at Evesham, Worcestersh. Mr. Ballard.—Bungay, Suff. Woodward.—Stafford and Tamworth.] P. June.†

HYDRO'CHARIS. Male and female flowers on different plants: *cal.* 3-cleft: *bloss.* 3 petals.

Male; *sheath* 2-leaved: *filaments*, the 3 inner ones style-bearing.

Fem. *caps.* 6-celled; many-seeded; beneath.

Morsus-Ra'næ. H.

*Curt.* 167–*E. bot.* 808–*Fl. dan.* 878–*Dod.* 583. 1–*Ger. em.* 818. *f.* 2–*Park.* 1252. 4–*Dod.* 583. 2–*Lob. ic.* i. 596. 1–*J. B.* iii. 773. 1.

* The whole plant is mucilaginous, and was formerly much employed as an emollient, but is now disregarded.

The small Old Gentlewoman Moth, and *Phalæna Meticulosa* feed upon it. Linn.—The seeds taste like those of hemp. St.

† Neither cows, horses, sheep, swine, or goats will eat it. Linn.—It is an ornament to the banks of our rivers and marshy ditches. Mr. Woodward.

It bears *buds* or rather bubbles. *Bud* pendent, on a very long thread-like leaf-stalk, consisting of 2 convoluted scales resembling leaf-scales, within which are contained the leaves, becoming gradually larger, tiled and convoluted. LINN. *Root* of many long thick white fibres. *Leaves* round-kidney-shaped, very entire, smooth, fleshy, and, on removing the outer skin when the leaves are dried, a most beautiful close net-work of veins is seen. Mr. WOODWARD. *Leaves* kidney-shaped, thick, smooth, reddish underneath. *Bloss.* white.

*Common Frog-bit.* Slow streams and wet ditches. P. June.

Var. 2. Blossoms double, sweet-scented. LINN.

Ditch on the side of Audrey Causey near a wooden bridge in the Isle of Ely. *R. Syn.*

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# CLASS X.

# DECANDRIA.

## MONOGYNIA.

(1) *Flowers complete; regular; of many Petals.*

MONO'TROPA. *Calyx* like a blossom; bulging at the base: *Caps.* 5-celled; many-seeded.

PY'ROLA. *Anthers* 2-horned, upwards: *Caps.* 5-celled; many-seeded.

[Geranium. Lythrum salicaria.]

(2) *Flowers of* 1 *petal; regular.*

ANDRO'MEDA. *Bloss.* bell-shaped, but roundish: *Caps.* 5-celled.

AR'BUTUS. *Bloss.* egg-shaped: transparent at the base: *Berry* 5-celled.

[Vaccinium Myrtillus and Oxycoccos. Chlora perfoliata.]

(3) *Flowers incomplete.*

[Mercurialis.]

## DIGYNIA.

SCLERAN'THUS. *Blos.* none: *Calyx* 5-cleft: superior: *Seeds* 2.

CHRYSOSPLE'NIUM. *Bloss.* none: *Calyx* superior: *Caps.* 2-celled; 2-beaked.

SAXI'FRAGA. *Bloss.* 5 petals: *Calyx* with 5 divisions: *Caps.* 1-celled: 2-beaked.

SAPONA'RIA. *Bloss.* 5 petals: *Calyx* tubular: naked at the base: *Caps.* 1-celled; oblong.

DIAN'THUS. *Bloss.* 5 petals: *Calyx* tubular; with *Scales* at the base: *Caps.* 1-celled: oblong.

[Quercus. Carpinus. Agrimonia Eupatoria.]

## TRIGYNIA.

ARENA'RIA. *Caps.* 1-celled: *Petals* entire; expanding.

STELLA'RIA. *Caps.* 1-celled: *Petals* deeply divided expanding.

CUCU'BALUS. *Caps.* 3-celled: *Petals* cloven: *Mouth* naked.

SILE'NE. *Caps.* 1 to 3 cells: *Petals* (mostly) cloven: *Mouth* crowned.

CHERLE'RIA. *Caps.* 3-celled: *Nectaries* like petals; smaller than the cup.

[Polygonum Bistorta. Quercus. Sambucus Ebulus. Alsine.]

## PENTAGYNIA.

COTYLE'DON. *Caps.* 5, adjoining the nectaries: *Bloss.* 1 petal.

SE'DUM. *Caps.* 5, adjoining the nectaries: *Bloss.* 5 petals.

OX'ALIS. *Caps.* 5-celled: angular: *Bloss.* petals connected at the base.

LYCH'NIS. *Caps.* 1-3, or 5-celled; oblong; *Calyx* oblong; membranaceous.

AGROSTEM'MA. *Caps.* 1 cell; oblong: *Calyx* tubular; membranaceous.

CERAS'TIUM. *Caps.* 1-celled: *Petals* cloven: *Calyx* 5-leaved.

SPER'GULA. *Caps.* 1-celled: *Petals* entire: *Calyx* 5-leaved.

[Adoxa moschatellina. Geranium. Cucubalus Behen. Arenaria media. Quercus.]

## MONOGYNIA.

MONO'TROPA. *Calyx* none: *petals* 10, the 5 outer ones hollowed at the base to contain honey: *caps.* 5-valved. *(These are the numbers of the terminating flower.)*

M. Lateral flowers with 8, the terminating flowers with 10 stamens. Hypopithys.

*E. bot.* 69–*Fl. dan.* 232–*Kniph.* 10–*Plot. oxf.* 9. 6, *at p.* 146 –*H. ox.* xii. 16. 13. 20. *a. b.*–*Pluk.* 209. 5.

*Spike* when in flower nodding, when in fruit upright. Mr. WOODWARD. The whole plant smells sweet, and is of a pale yellow colour, which peculiarity is generally confined to parasitical plants, and such as grow in very shady situations.

*Primrose scented Birds-nest.* Woods, growing on the roots of other plants. In Oxfordshire, Bedfordshire, Bucks, Berks, and the Beech Woods of Sussex. [Woods near Uley, Gloucestershire. Mr. BAKER. Shottisham, Norfolk. Mr. CROWE. In a Pine Grove, Stoke, Norfolk. Mr. WOODWARD. Lord Stamford's Woods, at Enville, Staffordshire.] P. July.

ANDRO'MEDA. *Calyx* with 5 divisions: *bloss.* more or less egg-shaped; mouth 5-cleft: *caps.* 5-celled: *seeds* few.

A. Umbel of few flowers, terminating: bloss. egg-shaped, nodding: leaves alternate, strap-spear-shaped, edges rolled back. polifolia.

*Dicks. h. s.*–*Fl. Ross.* i. 71–*E. bot.* 713–*Fl. lapp.* 1. 2–*Pluk.* 175. 1–*Park.* 76. 7–*Walc.*–*Fl. dan.* 54–*J. B.* i. *a.* 227. 1–*Buxb.* v. 55. 1–*Ray ed.* i. 1. 1.

*Blossoms* tinged with red.

*Marsh Cistus. Wild Rosemary. Poley Mountain. Rosemary Moorwort. Marsh Holy Rose,* Turf bogs. Yorkshire, Cheshire, Lancashire, Westmoreland, Cumberland, and Scotland. [Bogs about Halifax, Yorkshire. Mr. CROWE. Causeway Moss and Rusland Moss, Furness Fells. Mr. JACKSON. Thorn Moor, Yorkshire. Mr. ROBSON. Chartley Moss. Mr. BAGOT.] S. June.

A. *Daboecia.* See Erica *Daboecia.*

AR'BUTUS. *Cal.* with 5 divisions, *bloss.* egg-shaped, pellucid at the base: mouth 5-cleft: *berry* 5-celled, many-seeded: superior.

U'nedo. A. Stem tree-like: leaves smooth, bluntly serrated: panicle terminating: berries with many seeds.

*Hunt. Evel.* 373. ii. *p.* 81. *ed.* 2–*Mill.* 48. 1 *and* 2–*Clus.* i. 47. 2–*Dod.* 804. 2–*Lob. obs.* 571–*Ger. em.* 1496–*Park.* 1490. 1–*J. B.* i. *a.* 83–*Matth.* 270–*Ger.* 1310. 2–*Lonic.* i. 56. 1.

*Berries* rough with tubercles formed by the seeds. LINN. *Stem*, serratures of the *Leaves* and *Flower-scales* coloured. *Calyx* segments lapping over each other, coloured at the points. *Bloss.* greenish white, a little hairy within. *Anthers* reddish scarlet, double, opening at the base, with 2 yellow horns. *Berries* red.

*Common Strawberry Tree.* In the West of Ireland; in the county of Kerry; near the Lake of Killarney. RAY. On barren limestone rocks. Mr. CROWE. S. Sept.*

alpi'na. A. Stems trailing: leaves wrinkled, somewhat serrated, and fringed with hairs.

*Fl. dan.* 73–*Light.* 11. *a. b. at p.* 216–*Clus.* i. 61–*Ger. em.* 1417. 4–*Park.* 1456. 3–*Ger.* 1230. 4–*J. B.* i. *a.* 519.

*Berries* black, globular, sitting upon a very small red cup.

*Mountain Strawberry Tree.* Dry mountains, in Scotland and the Western Isles. S. May.†

Uva ur'si. A. Stems trailing: leaves oblong-egg-shaped, very entire, veined like net-work underneath.

*E. bot.* 714–*Kniph.* 9–*Fl. dan.* 33–*Blackw.* 592. 1. 2 *and* 3–*Fl. lapp.* 6. 3–*Woodv.* 70–*Lightf.* 11. *c. d. at p.* 216–*J. B.* i. *a.* 523–*Zanon.* 178–*Ger.* 1230. 5–*Clus.* i. 63. 2–*Lob. obs.* 547. 1–*Ger. em.* 1416. 5–*Park.* 1457. 6.

*Blossom*, mouth very much contracted, tinged with red. Mr. WOODWARD. *Flowers* flesh-coloured. *Berries* red.

*Bear-berries. Bear Whortle-berries. Bear-berry. Straw-berry Tree.* Dry heaths and woods. East Common Wood, near Hex-

* It is a beautiful ornament to our shrubberies, not only on account of its foliage and flowers, but of its fruit, which is pleasing to the eye, though not grateful to the taste. The country people, however, in Ireland, eat it, but always drink water after.

† The berries have something of the flavour of black currants, but they are not so good. Goats refuse it.

ham, Northumberland. Isle of Mull, next to Y-Columb-Kill, growing plentifully for some miles together. Mr. LLWYD.—[Common about Blair. Mr. WATT.—West side of the county of Durham.] S. May, June.*

PY'ROLA, *Calyx* with 5 divisions: *petals* 5: *caps.* 5-celled, opening at the angles: *seeds* numerous, coated.

P. Stamens ascending: pistils leaning downwards. rotundifo'lia.

*E. bot.* 213–*Fl. dan.* 110–*Blackw.* 594–*Riv. pent.* 137–*Matth.* 982–*Fuchs.* 467–*Trag.* 707–*J. B.* iii. 535–*Dod.* 138–*Ger. em.* 408. 1–*Ger.* 330. 1–*Clus.* ii. 116. 3–*Lob. obs.* 157. 2–*H. ox.* xii. 10. *row* 2. 1–*Park.* 508–*Lonic.* 186.

*Blossoms* white.

*Common Wintergreen.* Woods and groves in the North of England: in the South rare. Near Halifax, Yorkshire. [Hockfall Woods, near Grewelthorpe, Raydale Wood, near Carr-end Wensley Dale, and Tennant's Wood, near Kilnsay, Yorkshire. CURT. Meadows at Gorlestone, Suffolk. Mr. WIGG. Woods of Duplin and Panmure, Angus-shire, and about Loch Ranoch, Perthshire. Mr. DONN. Chartley Moss, Staffordsh. Mr. BAGOT.] P. June, July.

P. Flowers in a bunch, scattered: stamens ascending, pistils straight. mi'nor.

*E. bot.* 158–*Fl. dan.* 55–*Kniph.* 9–*Riv. pent.* 136. 1.

Much resembles the *P. rotundifolia. Stem* in both 3-cornered. It is very probable that this plant was first produced by the Pollen of the *P. secunda,* impregnating the germen of the P. rotundifolia. *Bloss.* reddish white. LINN. Two flowering *stems* frequently arise from the same root. Whole plant smaller and weaker than the P. rotundifolia. WOODWARD. Anthers with

* The berries are insipid, pulpy, and mealy. The plant is much used in Sweden to dye an ash-colour, and to tan leather. Half a dram of the powdered leaves given every, or every other day, has been found useful in calculous cases. It was first used for this purpose at Montpelier, and afterwards by Dr. de Haen, at Vienna, who relates several cases, in which it proved of the greatest service. Its success in England has been uncertain. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; whilst, in other calculous and nephritic cases, the symptoms have been almost entirely removed. Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have long been used by the country people, in gravelly complaints, and with very great advantage: though hitherto unnoticed by the regular practitioners.—Horses, cows, goats, and sheep refuse it.

2 holes at the base, but not protruded into tubes as in P. uniflora. Bloss. pale pink or white. E. Bot.

*Lesser Wintergreen.* Woods. Near Clapham, Yorkshire. Highlands, and Isle of Skye. [Near Tring, Herts. Woodw. Stoken Church Woods, Oxfordsh. Hon. Mr. Bagot.]

P. June, July.

secun'da. P. Flowers in a bunch, from one side.

*Dick. h. s.–E. bot.* 517–*Fl. dan.* 402–*Clus.* ii. 117. 1–*Ger. em.* 408. 2–*J. B.* iii. 536. 1–*Park.* 509. 3–*H. ox.* xii. 10. *row* 2. 4.

The stamens project beyond the blossom, and the summit beyond the stamens. *Bloss.* white.

*Serrated Wintergreen.* Woods. Haslewood, near Sir Walter Vavasor's Park, Yorkshire, with the P. rotundifolia. [In a Den near Comry, Perthshire. Mr. Donn. On the banks of the river Isla near a cataract called the Reeky Lyn in Angus-shire. Mr. Brown.]

P. Sept.

uni'flora. P. Stalk bearing only 1 flower.

*E. bot.* 146–*Riv. pent.* 139. 1–*H. ox.* xii. 10. 2–*Fl. dan.* 8.

Flower odoriferous, white with red streaks. *Anthers* with 2 tubes at the base. *Summit* with 5 rays. E. bot.

*Single-flowered Wintergreen.* Firwoods near Brodie House, in Moray, Scotland; plentifully. Mr. Hoy. Linn. Tr. P. July.

## DIGYNIA.

CHRYSOSPLE'NIUM. *Cal.* coloured, 4 or 5-cleft: *bloss.* none: *caps.* 2-beaked, 1-celled, many-seeded; partly beneath; division of the valves extending but half way down.

alternifo'lium. C. Leaves alternate.

*Dicks. h. s.–E. bot.* 54–*Fl. dan.* 366–*Walc.–Pet.* 6. 10–*H. ox.* xii. 8. 8–*J. B.* iii. 707. 1.

*Stamens* in the terminating flower 10, in the rest 8. Linn. Eschenback, Leers, Mœnch and Woodward only found 8 stamens in the terminating flower. Larger than the next species, so that where they grow intermixed this may be known at some distance. *Stam.* 3-cornered. *Root-leaves* longer than the leaf-stalks. Woodw. Middle stem-leaves solitary or alternate. *Flowers* bright yellow.

*Alternate-leaved Sen-green.* Wet shady woods, along with the C. oppositifolium, but less frequent. [About Esholt, on the

river Air, 8 miles above Leeds, plentifully. Mr. Wood.—Boggy grove on Porland Heath, near Norwich. Mr. Woodw.—Purlieu Lane, leading from the Wytch to Mathon, Worcestersh. Mr. Ballard.—River side and woods at Roslin. Mr. Brown.—Moorlands at Belmont, Staffordshire. Mr. Pitt.—In a wood at Colton Beck Bridge in Furness Fells. Mr. Jackson.—Baydales near Darlington. Mr. Robson.] P. March, Apr.

C. Leaves opposite. oppositifo'lium.

*Curt.* 138–*E. bot.* 490–*Fl. dan.* 365–*Dod.* 316. 2–*Lob. obs.* 336. 1–*Ger. em.* 841. 2–*Park.* 425. 2–*H. ox.* xii. 8. 7. *Pet.* 6. 9.

*Stamens* in the terminating flower sometimes 10. Curt. *Stem* upright, with 2 or 3 pair of leaves. *Suckers* from the base of the stem, covered with leaves, creeping. *Stem-leaves* 2 or 3 pair, circular, with the base lopped on each side, indistinctly and irregularly notched. Woodward. *Stem* 4-cornered. *Root-leaves* longer than the leaf-stalks. *Stamens* sometimes only 6 or 7. *Flowers* bright yellow. Linnæus remarks, that this and the preceding species are very closely allied; but they may at once be distinguished by the very different lengths of their respective root-leaves.

*Golden Saxifrage. Opposite-leaved Sengreen.* Moist shady places, sides of boggy rivulets, common. [Copse on Polingland Heath, near Norwich. Mr. Pitchford. Moist heaths about Manchester. Mr. Caley.] P. April, May.

SAXI'FRAGA. *Calyx* 5-toothed: *bloss.* 5 petals: *caps.* beneath; 2-beaked, 2-celled, many-seeded, opening with a hole between the styles.

(1) *Leaves undivided; stem nearly leafless.*

S. Leaves serrated, oblong-inversely egg-shaped: stem naked, branched: petals spear-shaped, 2 dots upon each. stella'ris.

*E. bot.* 167–*Jacq. col.* i. 13–*Fl. dan.* 23–*Fl. lapp.* 2. 3–*Scop.* 13. *n.* 492. *at p.* 290–*Pluk.* 58. 2; *Ib.* 222. 4–*H. ox.* xii. 9. 13–*J. B.* iii. 708. 1.

*Leaves* close to the root, numerous, oblong-spear-shaped, narrowing downwards. *Stem* a finger's length, bare. *Flowers* 3 to 5, on short fruit-stalks. *Calyx* bent back. *Petals* white, with 2 oblong tawny spots near the base. Linn. *Leaves* in one or more star-like tufts from each root, wedge-shaped, entire at the base,

rather indented at the top, slightly hairy. *Stem*, 1 from each tuft. *Branches*, each having at its base a leaf, spear-shaped, entire, or cloven into 3, and bearing 1 or 2 flowers. Mr. WOODWARD.

*Hairy Kidneywort*, or *Saxifrage*. Moist rocks, and by the rills of Snowdon, Carnedh-Llewellyn, and Caderidris, &c. In the north of England, and in Scotland. [About Buckbarrow Well, Longlesdale, Yorkshire. CURT.—Mountains in Lancash. Westmoreland and Cumberland. Mr. WOODW.—Between Paterdale and Winander Mere. ST.—On Conistone Fells along with the Saxifr. aizoides and hypnoides. Mr. JACKSON. On the very summit of Snowdon. Mr. AIKIN.] P. June, July.

niva'lis. S. Leaves egg-shaped, scolloped, nearly sitting: stem leafless: flowers in heads.

*Dicks. h. s.–E. bot.* 440–*Fl. dan.* 28–*Lightf.* 12. *at p.* 221–*Ray* 16. 1, *at p.* 358–*Pluk.* 222. 5–*Fl. lapp.* 2. 5 *and* 6.

*Leaves* blunt, lying on the ground. *Stem* somewhat hairy. *Petals* blunt, white. Scarcely is any plant subject to such remarkable variations, in appearance as well as size. Sometimes it is exceedingly small, with heart-shaped leaves, flowers collected into a single head, and a strap-shaped leaf at the base. Sometimes it produces only a single flower on a stalk, and sometimes 2 of these rise from one root. At other times it bears a number of flowers at the top of the stalk, on fruit-stalks, forming an umbel, and sometimes it appears twice as large, with a spike composed of smaller ones as figured in Ray. But in all these states it is easily distinguishable by its leaves, reddish underneath, and purplish pistils. I have seen the same plant flower thrice in one summer. Mr. GRIFFITH.

*Mountain Saxifrage.* Summits of the higher mountains of Wales and Scotland. Glyder Vawr, near Snowdon. PENN. Wales. [On Ben Lomond and on Malghyrdy. Mr. DON. On Ben Teskerney, Craig Cailleach and Ben Lawers. Mr. BROWN.] P. end of Apr. to Oct.

umbro'sa. S. Leaves egg-shaped, scolloped and gristly at the edge, rather dented at the end: stem leafless; flowers in a panicle.

*E. bot.* 663–*Mill.* 141. 2–*Park.* 738, *fig.* 2*d.*–*par.* 233. 5.

*Leaves* stretching down the leaf-stalk. *Bloss.* whitish with elegant crimson dots, very beautiful when moderately magnified.

*London Pride. Geum folio subrotundo majori, pistillo floris rubro.* TOURN. R. Syn. *None-so-pretty. Princes Feather.* Mountains of Sligo, and on Mangerton in Kerry, Ireland. [In a sloping field a little below Moseley Common, and also on Chapmoss, Lancashire, Mr. W. EVANS.] P. June.

(2) *Leaves undivided; stem leafy.*

S. Stem-leaves opposite, tiled; the uppermost fringed. oppositifo'lia.

*Dicks. h. s.–E. bot.* 9–*Curt.–Fl. dan.* 34–*Fl. lapp.* 2. 1–*Allioni* 21. 3–*Pet.* 61. 9–*J. B.* iii. 694. 1–*H. ox.* xii. 10. 36.

*Stems* thread-shaped, hanging down, or creeping. *Leaves* disposed in 4 rows, sitting, fringed. *Flower* terminating, solitary, sitting. LINN. *Leaves* oval, somewhat running down the stem, in opposite pairs, alternately from each side of the stem, giving the appearance of being quadrangularly tiled, all fringed, sea-green, frequently tinged with purple. *Cup* purplish, fringed. *Petals* very blunt, bright purple. Mr. WOODWARD.

*Heath-like Saxifrage.* Rocks. On the north side of Ingleborough; higher rocks of Snowdon, about Llanberys; Highland mountains, and Isles of Rum and Skye. [Ingleborough and Pennigent. CURT.—This beautiful plant insinuates its roots into every crevice, and, with its numerous trailing branches, clothes, with a rich tapestry, the perpendicular rocks on the west side of the summit of Ingleborough. Mr. WOODW. On Ben Lomond, Dr. HOPE: and Ben Vurlock. Mr. BROWN.] P. April—June.

S. Stem-leaves spear-shaped, alternate, naked, without prickles: stem upright. Hir'culus.

*Curt.–Fl. dan.* 200–*Breyn. cent.* 48–*H. ox.* xii. 8, *row* 2. 6. *a–Breyn. ib. p.* 106–*H. ox.* 6–*Gmel.* iv. 65. 3–*Hall.* 11. 3–*Clus. cur.* 6–*Ger. em.* 1284. 8–*Park.* 656, *figure the lowest–H. ox.* xii. 8. 5–*Breyn.* 106. *t.* 48.

*Stem* purple, simple, generally with 2 or 3 flowers. *Fruit-stalks* downy. *Cup* bent back. *Leaves* not fringed. *Petals* ribbed, yellow, with tawny dots, towards their base an oblong hollow or chink of 2 valves, with pointed ends, containing honey. LINN. The ribs on the cup and on the petals clearly distinguish it from the S. aizoides. WOODWARD.

*Marsh Saxifrage.* Turf bogs. Knutsford Moor, Cheshire. RAY and LIGHTF. who first ascertained it to be the S. *Hirculus.* P. July, Aug.

S. Stem-leaves strap-awl-shaped, sometimes fringed; root-leaves crowded together; stems trailing. aizoi'des.

*E. bot.* 39–*Gesn. op. Schmied. app. f.* 4–*Scop.* 14. *at p.* 493 –*Fl. dan.* 72–*Clus.* ii. 60, 3–*Ger. em.* 516. 2–*Park.* 737. 7–*J. B.* iii. 693. 2–*Pet.* 61. 10–*H. ox.* xii. 6–*row* 2.

*Stems* numerous, ascending. *Stem-leaves* numerous, strap-spear-shaped, scattered, half embracing the stem, sometimes with

a few hairs at the edge, but oftener without. *Fruitstalks* many, from the bosom of the leaves, of various lengths, the lower ones longest; generally with 1 flower. *Flower-leaves* 2 on each fruit-stalk. *Cups* nearly as long as the blossom. *Petals* blunt, yellow, spotted. WOODWARD. Mr. Afzelius informed me, that the S. aizoides and the S. autumnalis of Linnæus were both the same plant; that when the leaves are fringed it had been called by the latter, and when without fringe by the former name. From the same authority also it may be observed that the Synonyms from Bauhine and Morison given to the S. autumnalis, belong to the S. hirculus, as does also that of Breynius.

*Yellow Mountain Saxifrage.* S. *autumnalis.* Huds. Lightf. Bot. arr. ed. ii. Ingleborough Hill, and in Westmoreland. Beeston Castle, Cheshire; [and in Long Sledale and Whitsell Gill, near Askrig, Yorkshire. CURT.—In Furness Fells, near the top of a high mountain called the Old Man; in moist places. Mr. ATKINSON.] P. July, Aug.

(3) *Leaves lobed; stem upright.*

granula'ta. S. Stem-leaves kidney-shaped, gashed: stem branched: root beaded.

*Dicks. h. s.-E. bot.* 500-*Kniph.* 1-*Curt. Fl. dan.* 514-*Mill. ill.-Woodv.* 232-*Ludw.* 120-*Walc.-Matth.* 978-*Fuchs.* 747-*J. B.* iii. *Dod.* 316. 1-*Lob. obs.* 335. 2-*Ger. em.* 841. 1-*Park.* 424. 1 *and* 2-*H. ox.* xii. 9. 23-*Ger.* 693. 1-*Trag.* 525-*Lonic.* i. 220. 1-*Blackw.* 56.

*Root* consisting of several tubercles crowded together. *Germen* beneath. LINN. *Branches* without leaves. *Cup* a little hairy. *Blossoms* white.

*White Saxifrage.* Dry meadows and pastures. Near Wandsworth. [Bevere, near Worcester. ST. Plentiful in the field below Malham Cove, Yorkshire. Wood behind Agecroft Hall, and many other places about Manchester. Mr. CALEY. In the Garlick Meadows, near Penn's Mill, Erdington, Warwicksh.] P. Apr. June.

cer'nua. S. Stem-leaves hand-shaped, on leaf-stalks: stem unbranched, 1-flowered, bulb-bearing.

*E. bot.* 664-*Fl. lapp.* 2. 4-*Fl. dan.* 22.

*Flowers* rather nodding. *Stem-leaves* smooth, more hand-shaped, and the germen more elevated above the receptacle than in the S. bulbifera. In that plant too the stem is branched, and bears more than 1 flower. LINN. Very seldom flowering, but always producing its axillary purple bulbs. Mr. BROWN. *Fl. dan.* 590, and *Gun. norv.* 8, 2, seem also to represent this species,

but the stem in these figures bears 2 flowers. *Root* not beaded. *Flowers* white.

On mountains in the north. Amongst the rocks on the summit of Ben Lawers, Scotland; first found by Mr. Dickson.

P. Aug.

S. Stem-leaves wedge-shaped, alternate, 3-cleft: stem branched: leaves in very dry situations sometimes undivided. tridactyli'tes.

*Dicks. h. s.–E. bot.* 501–*Curt.* 129–*Walc. Sheldr.* 24–*H. ox.* xii. 9. 31–*Ger.* 499. 3–*Pet.* 61. 8–*Scop.* 16. 499–*–Blackw.* 212.

Turns red after flowering. *Hairs* terminating in globules. *Stems* forked, in some situations trailing. *Root-leaves* tapering down into flat leaf-stalks. *Stem-leaves* sitting, the upper, and sometimes all above the first branches, spear-shaped and opposite. *Fruit-stalks* with single flowers; axillary. *Cup*, mouth with 5 egg-shaped clefts. *Petals* white, egg-shaped, but little longer than the segments of the cup.

Var. 2. Stem branched: upper stem-leaves opposite, spear-shaped.

On the tiles of the shed which covers the mill wheel at Mox hall, Staffordshire.

Var. 3. Stem unbranched; all the leaves entire.

This sometimes happens to small specimens in very dry situations.

*Rue Whitlow-grass. Rue-leaved Saxifrage.* Walls, roofs, and amongst rubbish. [Very common in Craven, Yorkshire, but rare in Lancashire. Mr. CALEY. In the walks at Hatton, near Shiffnal, Shropshire. On the Winnets near Castleton, Derbyshire.] A. Apr. May.

S. Root-leaves incorporated, strap-shaped, 3-cleft or entire: stem-leaves 3 to 5, entire: flowers on long fruit-stalks: whole plant hairy and glutinous. moscha'ta.

*Jacq. Misc.* ii. 21. 21–*J. B.* iii. 762. 2–*Gesn. fasc.* 6. 31–*Hall. opusc. it. helv.* 1. 1.

Growing in tufts. *Leaves* a fine green, mostly entire. *Stem-leaves* about 5; strap-shaped, rarely cloven. *Flowers* form 3 to 6. *Petals* pale yellow, not scored. Whole plant odoriferous. JACQ.

*Matted Saxifrage.* S. *cæspitosa.* HUDS. and Bot. arr. *ed.* ii; not S. *sæspitosa.* Linn. S. *pyrenaica.* Haller. Mountains above Ambleside, Westmoreland. P. July, Aug.

cæspito'sa. S. Root-leaves aggregate, strap-shaped, entire, or 3-cleft: stem upright, nearly destitute of leaves, bearing one or two flowers.

*E. bot.* 794—*Fl. dan.* 71—*Gun. Norv. t.* 7. *f.* 1, 3, 4.

*Plant* smooth: the extremities of some of the *branches* viscid: *Petals* yellowish, streaked. LINN. *Stem* bearing only one flower; *root-leaves* 3 or 5 cleft. Mr. GRIFFITH.

Found by Mr. Griffith on Snowden, and on the rocks in Cwm Idwel very near Twll dû.

hypnoi'des. S. Stem-leaves strap-shaped, entire, or 3-cleft: suckers trailing: stem with few leaves.

*E. bot.* 454—*Fl. dan.* 348—*H. ox.* xii. 9. 26.

*Stem, fruitstalks,* and *calyx* thickly set with short hairs, terminated by red globules; the rest of the plant thinly set with fine white hairs. *Upper-leaves,* both of the stem and trailing suckers, generally entire; the lower frequently 3-cleft. *Petals* greenish white, with 3 green lines; slightly cloven at the end.

*Ladies Cushion. Moss Saxifrage.* Rocks and high mountains. Snowdon, and other mountains in Wales, Westmoreland, Yorkshire, Derbyshire, Malham Cove, Chedder Rocks. [About Settle. CURT.—Dovedale, Derbyshire, and northern counties. Mr. WOODWARD.—Middleton Dale, Derbyshire. Mr. WHATELY.] P. May—July.

Cultivated in gardens as an edging for borders.

(4) *Stems trailing.*

palma'ta. S. Leaves hairy, palmate: the lower ones in 5 divisions; upper in three. Shoots ascending. Stem erect, leafy, with a dense panicle of few flowers. Petals roundish. *E. bot.*

*E. bot.* 455—*Fl. dan.* 71—*H. ox.* xii. 9. 28—*Pluk.* 222. 3—*Gouan ill.* 18. 3, *is the plant, but very much larger than the other figures or our specimens.*

*Root-leaves* sitting, mostly 3-cleft, wedge-shaped; the rest 3-cleft, *all* covered with long jointed transparent hairs, which taper to a fine point. *Stem* about 2 inches high, branched, supporting from 5 to 8 flowers, each subtended by a 3-cleft floral leaf. *Calyx* 5-cleft, segments oval, covered with short globuliferous hairs. *Petals* expanding, thrice as long as the calyx, oval blunt, each marked with 3 pale green lines. Whole *plant* hairy, the hairs jointed like a Conferva, and secreting a glutinous liquid. *Flower* yellow white, with a greenish tinge. *Petals* 3 fibred.

*Palmate Saxifrage.*—We are indebted to the indefatigable researches of J. Wynne Griffith, Esq. for this beautiful addition to our Flora. He found it on the rocks of Cwm Idwell, above Llyn Idwell, near Twll dû, and favoured me with recent specimens. It is a very scarce plant. P. April—June.

## SCLERAN'THUS. *Cal.* 1 leaf: *bloss.* none: *seed* 1, inclosed in the cup.

S. Calyx, segments thornless; tapering to a point; open when the fruit is ripe. an'nuus.

*E. bot.* 351–*Fl. dan.* 504–*Trag.* 393–*Lonic.* i. 169. 1–*Dod.* 115. 1–*Ger. em.* 566. 4–*Park.* 447. 7–*Ger.* 452. 2–*Pet.* 9. 6.

*Branches* either opposite or alternate. Mr. GOUGH; always woolly. *Leaves* with membranaceous and downy edges smooth above. *Flowers* in clusters at the end and divisions of the branches sitting. WOODWARD. *Stamens* 6 to 9, generally 8, unequal, 2 or 3 of them twice as long as the rest and producing pollen; the rest barren. Dr. STOKES. *Flowers* at the base of the leaves greenish.

*German Knotgrass. Annual Knawell.* Sandy ground and corn fields. A. July, Aug.*

S. Calyx, segments blunt, closed when the fruit is ripe. peren'nis.

*E. bot.* 352–*Kniph.* 10–*Ray* 5. 1. *at p.* 160–*J. B.* iii. 378. 1–*H. ox.* v. 29.*row 1. *f.* 2–*Ger.* 453–*Ger. em.* 567. 5–*Park.* 427. 2–*Pet.* 9. 7–*Fl. dan.* 563–*Vaill.* 1. 5.

*Stems* sometimes, but not always woolly. *Leaves* sea-green, fringed at the edge. WOODWARD. *Calyx* not perfectly closed, but less open than in S. *annuus*. HALLER. *Stamens* 10. *Flowers* greenish edged with white.

*Perennial Knawell.* Sandy corn fields. Elden, Suffolk. [Snetisham, Norfolk. Mr. CROWE. Bury, Suffolk. Mr. WOODWARD.] P. July, Aug.*

S. Cal. segments thorn-like; widely expanded when ripe: stem somewhat woolly. polycar'pos?

* The Swedes and the Germans receive the vapour arising from a decoction of it into their mouths, to cure the tooth-ach. Goats and sheep eat it; cows refuse it.

† The Polish cochineal, *Coccus polonicus*, is found upon the roots in the summer months.

Said to have been found at Broomholm, near Longholm, Eskdale. LIGHTF. *fl. scot.* p. 1135.

## SAPONA'RIA. *Calyx* 1 leaf, naked: *petals* 5, with claws: *caps.* oblong, of 1 cell.

officina'lis. S. Calyx cylindrical: leaves egg-spear-shaped.

*Curt.–Fl. dan.* 543–*Woodv.* 251–*Dod.* 179–*Lob. obs.* 170. 2–*Ger. em.* 444–*Park.* 641. 1–*H. ox.* v. 22. 52–*Blackw.* 113.

*Leaves* sitting, opposite. 3-fibred. *Flowers* terminating. *Bloss.* flesh-coloured, or white.

*Bruisewort. Common Soapwort.* Meadows and hedges. On Black Heath. Near Mordern College, Kent. [Norfolk, not unfrequent. Mr. WOODW. Hedges near Hanley, Worcestershire. Mr. BALLARD. On the brink of the river below Preston, Lancashire. Mr. SAVILLE. Somerton and Beverstone, Glocestersh. Mr. BAKER.] P. July, Aug.*

Var. 2. *hybrida.* Leaves concave. A singular variety, found by Gerarde, in a wood called the Spinnie, near Lichbarrow, in Northamptonshire; but Morton informs us it is no longer to be met with there, not being capable of propagating itself by seed. It is possibly, however, still preserved in the gardens of the curious. It seems to be a mule produced between the Saponaria and the Gentiana, the pollen of the latter falling upon the pistils of the former. LINN.

Var. 3. Leaves united at the base. Bloss. whitish, of a pale flesh-colour at the edge. RAY. Leaves egg-shaped, those beneath the flowers clasping the stem. Calyx sheath-like, ragged at the mouth. Bloss. twice as long, with a number of short teeth, accompanied sometimes with green leaves. Specimens from the herbarium of C. B. and Mr. Hudson. HALL.

*Ger.* 353–*J. B.* iii. 521. 2–*H. ox.* v. 53–*Park.* 641.

*Saponaria concava anglica convoluto folio. Park.* 641.—*Gentiana concava. Ger. em.* 435. ST.

* The whole plant is bitter. Bruised and agitated with water it raises a lather like soap, which washes greasy spots out of clothes. A decoction of it, applied externally, cures the itch. The Germans use it instead of Sarsaparilla in venereal complaints. M. Andry, of Paris, cures violent gonorrhœas, by giving half an ounce of the inspissated juice daily. By the use of the extract, and a decoction of the leaves and roots, M. Jurine cures old venereal complaints, such as ulcers, pains, and emaciations, which have resisted the use of Mercury. *Journal de Medicine*, tom 66, p. 478.

DIAN'THUS. *Cal.* cylindrical, of 1 leaf, with from 2 to 8 scales at the base: *petals* 5, with claws: *caps.* cylindrical, 1-celled.

(1) *Stem herbaceous, many flowered; flowers incorporated.*

D. barba'tus. Flowers in bundles: scales of the calyx egg-awl-shaped, as long as the tube: leaves spear-shaped.

*Renealm.* 47–*Clus.* i. 287. 1–*Dod.* 176. 2–*Ger. em.* 598. 4–*Ger.* 479. 4–*Swert.* ii. 18. 8 *and* 9.

*Sweet Williams.* [On a limestone wall at King's Weston near Bristol. Dr. STOKES. Common in gardens.] P. June.

D. Arme'ria. Flowers in bundles: scales of the calyx spear-shaped, woolly, as long as the tube.

*Fl. dan* 230–*J. B.* iii. 335. 2–*Lob. ic.* i. 448. 2–*Ger. em.* 594. 11–*H. ox.* v. 25. 20–*Pet.* 56. 5–*Seguier.* i. 7. 4–*Matth.* 579.

*Petals* taper pointed, with 1 or 2 teeth. LINN. red.

*Deptford Pink.* Gravelly meadows and pastures. Charlton Wood, and elsewhere in Kent. Near Croydon. [Norfolk, frequent. Mr. WOODWARD. Near Ketley, Shropshire, in gravel, and Clarkton Leap, Worc. in marle. STOKES. About Perthshore and Eckington. Worcestersh. NASH.] A. July.

D. prolifer. Flowers in heads: scales of the calyx egg-shaped, blunt, awnless, taller than the tube.

*Fl. dan.* 221–*Kniph.* 7–*Seguier.* i. 7. 1–*J. B.* iii. 335. 1–*Lob. ic.* i. 450. 1–*Ger. em.* 599. 5–*Park.* 1338. 1–*H. ox.* v. 25. 21.

*Stem* usually simple, upright, slender. *Flowers* nearly concealed by the scales of the calyx, opening one at a time for a considerable time in succession. Mr. WOODWARD. *Blossoms* red, sometimes white. They expand about 8 in the morning, and close about 1 in the afternoon.

*Childing Sweet Williams. Childing Pinks. Proliferous Pink.* Sandy meadows and pastures. Selsey Island, Sussex. [Near Norwich. Mr. WOODWARD. In a marle pit Landridge Hill; Hanley Castle, Worcestershire. Mr. BALLARD.] A. July.

(2) *Stem herbaceous, many flowered; flowers solitary.*

D. Caryophyl'lus Scales of the calyx almost rhomboidal, very short: petals irregularly toothed. (See Linn. tr. ii. 299.)

*E. bot.* 214–*Dod.* 174. 3–*Ger. em.* 591. 1–*Pet.* 56. 1.

*Stem* panicled. *Leaves* finely toothed just above the base. *Flowers* several, but not in bundles. *Scales*, the 2 outermost narrower than the inner ones, which are broader than they are long. *Petals* smooth at the orifice, pale flesh-colour. E. Bot.

*Common Pinks. Single red Pink. D. Caryophyllus* β Huds. The Clove Pink or Clove July Flower of our gardens, is a var. of this. Old walls. Rochester, Deal, Sandown, and other castles, plentifully. Ray. [Leverington near Wisbeach. Relh.]

P. June, July.

deltoi'des. D. Scales of the calyx 2; egg-spear-shaped, acute; petals toothed at the end.

*E. bot.* 61–*Fl. dan.* 577–*Clus.* i. 285. 1–*Lob. ic.* 444. 1–*Ger. em.* 593. 6–*Pet.* 56. 2–*J. B.* iii. 329. 4.

*Root* slender, long, with a few fibres. *Barren stems* numerous, reclining, throwing out roots; *flowering stems* 6 to 8 inches high, cylindrical, slender, weak, jointed. *Leaves* very narrow, in opposite pairs, embracing the stem; those of the barren branches narrower, not much pointed. *Flowers* 2 or 3 on a stem. *Bloss.* reddish, with a ring of deeper coloured dots surrounding the eye. *Seeds* chaffy, brown. It flowers during the summer and till autumn. Ray. *Fruit-stalks* single or in pairs. *Flowers* palish red, sometimes deeper, always with a circle of deeper coloured dots at the base of the limb.

*Maiden Pink.* Sandy meadows, pastures, and heaths. Near Nottingham, on the road to Lenton in Bedfordshire. Mantham Hill not far from Slough, near Windsor; Hildersham, Cambridgeshire; Bridgnorth, Shropshire; near G. Strickland, Westmorel. and about Hampton Court Park. Ray. Dupper's Hill, near Croydon. Huds. Near Whitewood, Gamlingay, Cambridgeshire. Relhan. King's Park, Edinburgh. Lightfoot. [Cley, Norfolk, and Chedder Rocks, Somersetshire. Mr. Crowe. Near Bury, Suffolk. Mr. Woodward. Hills between Bakewell and Chatsworth. Mr. Whately. Sand Banks near Wollerton, Nottinghamshire, on the road from Derby to Nottingham. Mr. Saville. Blackford Hill plentifully, and many other places in Scotland. Mr. Brown.] B. July—Oct.

Var. 2. *glaucus.* Scales of the calyx mostly 4.

*Dill. elth.* 298. 384.

So nearly allied to *D. deltoides*, that they are difficultly distinguished, except in size and colour. *Stem* longer, more upright. *Bloss.* greenish underneath, above white, with a toothed scarlet circle. Linn. *Bloss.* white, with a purple eye. In other respects differs very little from the *D. deltoides*. Lightf.

D. *glaucus*. Linn. Common in gardens. King's Park, Edinburgh. Lightf. [Chedder Rocks, Somersetshire. Mr. Swayne.]
P. June, July.

(3) *Stem herbaceous, supporting a single flower.*

D. Stem mostly single-flowered: scales of the calyx roundish and short: petals irregularly toothed: leaves rough at the edges. (E. bot.) cæ'sius.

*Dill. elth.* 298. 385–*E. bot.* 62.

Stem trailing, the flowering branches rising upwards. Leaves bluish green, soft to the touch, but finely serrated with pointed semi-transparent glands at the edges. *Calyx* scales either 2 or 4. *Petals* with short stiffish purple hairs at the base of the limb. Flowers pale pink.

*Mountain Pink.* D. *virgineus.* β Linn. D. *glaucus.* Huds. See English Botany. p. 62. Chedder Rocks. P. July.

## TRIGYNIA.

CUCU'BALUS. *Calyx* inflated: *petals* 5, with claws, not crowned at the mouth: *capsule* 3-celled.

C. Calyx bell-shaped: petals distant: seed-vessels coloured: branches straddling. bacci'ferus.

*Dicks. h. s.–Mill.* 112–*Clus.* ii. 183. 2–*Dod.* 403–*Lob. obs.* 136. 3–*Ger. em.* 614. 13–*Park.* 759. 1–*J. B.* ii. 175. 1–*Tourn.* 176.

This singular plant will not properly arrange either with the Cucubalus or with the Silene. The fringe or crown at the mouth of the blossom refers it to the latter genus, but the fruit, which is a pulpy berry, not a dry capsule, excludes it from both. Whole *plant* somewhat hairy. *Stem*, joints large; *branches* nearly horizontal. *Leaves* in pairs at the joints. *Flowers* nodding. *Calyx* egg-shaped. *Petals*, when young, not seeming to be fringed at the mouth, but afterwards it becomes visible; and the fringe is serrated at the ends, so that it is properly a *Silene*. *Berry* with 3 partitions, but not sufficiently projecting to separate it into distinct cells. *Flowers* white. *Berries* black.

*Berry-bearing Chickweed.* Hedges in Anglesea.
P. June, July.

C. Calyx nearly globular, smooth, with a net-work of veins: leaves egg-spear-shaped, glaucous, smooth. Be'hen.

*Fl. dan.* 914–*E. bot.* 164–*Kniph.* 12–*J. B.* iii. 356–*Pet.* 57. 2–*Blackw.* 268–*Clus.* i. 293. 2–*Dod.* 172–*Lob. obs.* 184. 1–*Ger. em.* 678. 2–*Park.* 263–*Ger.* 550. 2–*Trag.* 130–*Lonic.* ii. 33–*H. ox.* v. 20. 1.

We have adopted the improved Spec. char. as given by Dr. Smith in the Eng. bot. because, as he justly observes, our plants have no appearance of a crown at the mouth of the bloss. Calyx white, or purplish, with green or purple veins. Flowers white. Pistils sometimes 4 when growing on the sea coast.

*Spatling Poppy. White Bottle. Bladder Campion.* Corn fields and dry meadows and pastures, common. P. June, Aug.*

Oti'tes. C. Male and female flowers on different plants: petals strap-shaped, undivided.

*E. bot.* 85–*Kniph.* 12–*Fl. dan.* 518–*Clus.* i. 295. 1–*Ger. em.* 593. 1–*J. B.* iii. 350. 2–*Pet.* 57. 11–*Ger.* 396. 1–*H. ox.* v. 20. 5.

The *barren plants* bear more flowers, and in closer panicles than the *fertile* ones. I have examined many hundred plants, but never met with one with stamens and pistils in the same calyx. WOODWARD. Though the male flowers sometimes produce imperfect pistils, and the female imperfect stamens. Root-leaves lying on a circle on the ground. Bloss. pale yellowish or greenish white.

*Spanish Campion.* Gravelly pastures. Gravel pits on the North side of Newmarket, and between Barton Mills and Thetford, Norfolk. [Near Swaffham and Narborough, Norfolk. Mr. WOODWARD.] P. July, Aug.

## SILE'NE. *Calyx* distended: *petals* 5, with claws; crowned at the mouth: *caps.* 1 or 3-celled.

### (1) *Flowers lateral, solitary.*

an'glica. S. Hairy: flowers upright, alternate, on fruit-stalks: lower ones bent back after flowering.

*Curt.* 266–*Dill. elth.* 309. 398.

Leaves spear-shaped; flowers axillary; fruit-stalks hairy, clammy, at first upright, then bent back, and at length when the seeds are quite ripe upright again. Petals white, either en-

* The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the island of Minorca, in the year 1685, when a swarm of locusts had destroyed the harvest. The Gothlanders apply the leaves to erysipelatous eruptions.

tire or notched at the end. CURT. Sometimes with pale reddish spots. E. bot. 86.

*Small Corn Campion, with a very small white flower,* RAY. *English Catchfly.* Sandy corn fields. Near the Devil's Ditch, Cambridgeshire. In Essex. About Coombe Wood, Surry; and near Newport in the Isle of Wight. [Road side between Dundee and St. Andrew's. Cornfields in several parts of Fife-shire, Angus-shire, and Perthshire. Mr. BROWN.] A. June, July.

S. Petals very entire, roundish: fruit upright, alternate. quinque-vul'nera.

*E. bot.* 86–*Kniph.* 8.

*Calyx* of the fruit upright, hairy, clammy. *Petals* blunt, scarcely nicked, very entire at the edge, purple, with a white margin. LINN. Plant less hairy and less viscid than the preceding. Limb of the petals white, with a blood red blotch at the base.

*Variegated Catchfly.* S. *anglica.* Kniphoff. Sandy Corn fields about Wrotham, Kent. HUDS. In our flower gardens very common. A. June—Aug.

(2) *Flowers lateral, or terminating.*

S. Petals cloven: calyx ribbed: flowers lateral, pointing one way, bowed downwards: panicle drooping. nu'tans.

*E. bot.* 465–*Fl. dan.* 242–*Clus.* i. 291. 1–*Ger. em.* 470. 8–*Park.* 631. 5.

*Stem* simple, cylindrical, a foot high, with 3 joints below the panicle, beset with clammy hairs. *Leaves* spear-shaped, with short hairs. *Root-leaves* on short leaf-stalks, forming a close turf. *Petals* white, narrow, cloven more than half way down; segments scolloped at the end, rolled inwards in the day time. *Claws* of the blossom twice as long as the calyx. *Stamens* white, twice as long as the claws of the petals. *Styles* 3, white, as long as the stamens. LINN. *Stem* frequently branched from the root. Mr. WOODWARD. Capsule with 3 cells, and its mouth with 6 clefts.

*Nottingham Catchfly.* Mountainous meadows. [On the Lodge at Nottingham Castle.–Rocks in Dovedale, Derbyshire. Mr. WOODWARD. Near Gloddeath, Caernarvonshire. PENN. *Wales.*—Foot of North Queen's Ferry Hill. Mr. BROWN.] P. June. July.

The Lychnis major noctiflora Dubrensis perennis of Ray Syn. 340, is supposed also by Mr. Woodward and Mr. Lightfoot to be the S. nutans, which Ray himself also strongly suspected, and his more ample description of it in Hist. Pl. ii. p. 995, agrees with my specimens of the S. nutans. At any rate it cannot be the Cucubalus viscosus of Linnæus as Mr. Hudson had supposed,

misled by the reference to Ray in the Sp. Pl. but that reference has since been directed to be erased. Retz. in obs. iii. tells us, that he had Ray's Dover plant growing in his garden, and that it was not specifically different from the Cucubalus Italicus. But it is evident from Ray's description that the Dover plant is a Silene, and not a Cucubalus, for he particularly mentions the crown at the mouth of the blossom, and the circumstance of the stamens protruding from the blossom, and pointing downwards, is so remarkable in the C. italicus, that it could not have escaped the observation of our countryman.

Mr. Afzelius informed me, that Ray's Dover plant was a Silene, and very much resembling the S. nutans, but not the same; but on comparing Ray's plant with the fig. of Clusius, referred to by Linnæus, and with his full description in the fl. Suec. I cannot perceive wherein the difference consists. Since the above was written I have been favoured with a specimen of the Swedish Silene nutans, sent by Professor Thunberg, which only differs from our plant in having smaller leaves.

marit'ima. S. Stem trailing, branches ascending; calyx veined, smooth: petals cloven, segments very entire.

*Fl. dan.* 857–*Lob. adv.* 143. *and ic.* 337–*Tab. ic.* 676. xiii. –*Ger. em.* 469. 2–*Bauh. hist.* iii. 357. 1–*Ger.* 382. 2–*Park.* 639. 3 *and* 4–*Pet.* 57. 1–*H. ox.* v. 20. 2.

*Stem trailing*; branches ascending. *Leaves* spear-shaped, varying much in breadth, those on the barren and trailing branches the narrowest, edges transparent, serrated with very minute prickles. *Fruit-stalks* either from the bosom of the leaves or terminating; mostly solitary, though in the larger and more upright plants there are sometimes 3 terminating flowers as in the fig. in the Fl. Danica. *Floral-leaves* 2, opposite, spear-shaped, at some distance from the flower. *Calyx* semi-transparent, with a net-work of veins, but neither hairy nor ribbed; often coloured. Petals white, (it is said sometimes red, but I have not seen them so), cloven, segments rounded, very entire; the crown formed by 2 little plaits in each petal. *Styles* sometimes 5. *Germen* oblong, mulberry coloured. Seeds fixed on short pedicles to the receptacle, which becomes loose. When cultivated the segments of the petals are sometimes jagged.

*Sea Campion*, or *Catchfly*. Cucubalus *Behen*. β Linn. Silene *amæna*. Huds. and Lightf. if his references are to be trusted. In S. amæna the fruit-stalks are 3-flowered and opposite, the flowers all pointing one way; the cups hairy and with 10 angles, but none of these circumstances apply to our plant. Sandy places on the sea coast. [Southwold, Suffolk. Mr. Crowe. Wells, Norfolk. Mr. Woodward. Coast of Wales. Mr. Sawyer. Portreath, near Hayle, Cornwall. Mr. Watt. And on almost all the Western and Southern coasts.] P. April—Aug.

(3) *Flowers growing from the forks of the stem.*

S. Petals entire; flowers in flat-topped bundles: upper-leaves heart-shaped, smooth. Arme'ria.

*Kniph.* 8–*Fl. dan.* 559–*Clus.* i. 288. 1–*Dod.* 176. 4–*Lob. obs.* 242. 3–*H. ox.* v. 21. 26–*Ger.* 481. 2.

Whole *plant* smooth. *Stem* upright. *Leaves* oblong, the upper heart-shaped. *Flowers* terminating, the ends of the branches subdividing into forks, the forks close together. *Petals* nicked at the end; *teeth* of the crown taper-pointed, open. LINN. *Stem* forked. *Leaves* sea-green, opposite. *Petals* pale red, slightly notched at the end.

*Common Catchfly.* Corn fields, and old walls. Banks of the river half a mile below Chester. [Common in gardens.]

A. July, Aug.

S. Petals entire: calyx of the fruit globular, tapering to a point, with 30 scores: leaves smooth. conoi'dea.

*Clus.* i. 288. 2–*Lob. obs.* 183. 2, *and ic.* i. 339. 2–*Ger. em.* 470. 7–*J. B.* iii. 349. 4–*Park.* 631. 4–*H. ox.* v. 21. 33.

These are the figures which Linnæus refers to his S. *conoidea*, and with these, as well as with the description of S. *conoidea*, my specimens from the London Botanic Garden accord. Mr. Hudson, indeed, gives to the S. *conoidea*, the synonyms which Linnæus has referred to the L. *conica*, but he mentions no place of growth, except on the authority of R. Syn. Dr. STOKES. But it can hardly be supposed that Ray or Dill. should have been mistaken in this case, we must therefore believe the S. *conica* to be the plant gathered near Sandown Castle, without however meaning to deny that the S. *conoidea* may be likewise English.

*Stem* beset with clammy hairs. *Leaves* spear-shaped, smooth. *Calyx* ribs rough with hair. *Capsules* globular, with a cylindrical beak. *Petals* small, undivided, entire. *Nectaries* with 3 clefts, pointed, and with a tooth besides on each side at the base of the blossom. LINN. *Leaves*, edges and mid-rib underneath downy, and sometimes also the whole of the leaf. Calyx rounded at the base. In S. *conica* the calyx is lopped at the base, and the whole plant covered with short thick cottony down, without a mixture of longer hairs, and not clammy. Dr. STOKES. *Flowers* dull red.

*Common Catchfly.* A. June, July.

S. Petals cloven: calyx of the fruit conical, with 30 scores; leaves soft. co'nica.

*Jacq. austr.* 253–*J. B.* iii. 350. 1–*Lob. ic.* i. 338. 2–*Ger. em.* 470. 6–*Park.* 633. 11.

*Capsule* 1-celled. HALLER. *Plant* greyish green. *Leaves* opposite, united at the base. *Flowers* fine red.'

I have a specimen gathered many years ago in England, but cannot recollect where.—Sandy corn fields. A little to the north of Sandown Castle, plentifully. Mr. J. SHERARD and Mr. RAND. *R. Syn. ed.* iii. A. June, July.

noctiflo'ra. S. Petals cloven: calyx with 10 angles: the teeth as long as the tube: stem forked.

*E. bot.* 291–*Cam. hort.* 34–*H. ox.* v. 20. 12.

*Stem* upright, hairy, clammy. *Leaves* broad-spear-shaped, hairy. *Flowers* solitary, on fruit-stalks, slanting, whitish. *Calyx* cylindrical; when in fruit, globular-egg-shaped, full of seed, scored, with a net-work of veins; teeth nearly as long as the calyx. *Flower* opening in the night sweet-scented in the summer, not so in the autumn. LINN. *Leaves* growing together at the base. *Flowers* few, in the bosom of the upper leaves, and terminating, mostly nodding. *Seed-vessel* upright. Mr. WOODWARD. *Bloss.* whitish, with a pinky tinge; only expanded in the evening.

*Night-flowering Catchfly.* Corn fields. Between Newmarket and Canvass-hall in Woodditton. About Norwich. [Sandy fields, Norfolk, frequent. Mr. WOODWARD.] A. July.

(4) *Stemless.*

acau'lis. S. Stemless, depressed: petals notched at the end: capsules globular.

*Dick. h. s.–Lightf.* 12. *at p.* 221–*Fl. dan.* 21–*Dill. elth.* 167. 206.–*Allioni* 79. 1–*Pona ap. Clus.* ii. 341. 2–*Ger. em.* 593. 8–*Barr.* 380–*Park.* 639. 10–*J. B.* iii. 768–*Pet.* 56. 4.

Forms a thick turf. *Leaves* awl-shaped, smooth, but the edges beset with hooked teeth pointing downwards. *Flowers* single, bright purple. *Fruit-stalks* sometimes not ½ an inch high, but lengthening as the fruit advances to maturity, to 1 or 2 inches. *Petals* inversely heart-shaped, with 2 small teeth forming the crown. *Capsule* as long again as the calyx, smooth, shining, tinged with purple. Mr. WOODWARD.

*Moss Catchfly.* Mountains of Caernarvonshire, near Llanberris, Dartmoor, Devonsh. Isles of Mull, Rum, and Skye, Highland Mountains. [Ben Lomond. LIGHTF. Dr. J. E. SMITH.—Malghyrdy and Ben Vurloch. Mr. BROWN.] P. May, June.

STELLA'RIA. *Cal.* 5 leaves, expanding: *petals* 5, mostly divided down to the base: *caps.* 1 cell: *seeds* many.

S. Lower leaves heart-shaped, on leaf-stalks: panicle with forked fruit-stalks. ne'morum.

*E. bot.* 92–*Kniph.* 10–*Fl. dan.* 271–*H. ox.* v. 23. 2–*Park.* 762. 1–*Col. Ecphr.* 290. 2.

From 5 to 12 inches high. *Stems* very brittle. Whole *plant* hairy. *Leaves* rather stiff, underneath hairy only on the veins and mid-rib. *Fruitst.* the lateral ones solitary, the terminating ones forming a kind of leafy panicle, widely straddling and rather turned down after flowering. *Flowers* white. *Styles* 3, but in the Cerastium aquaticum always 5, so that how much soever they may resemble each other in general habit they cannot well be mistaken.

*Broad-leaved Stitchwort.* Woods, moist hedges, and banks of rivers, in the northern counties. [By Casterton Mill, near Kirkby Lonsdale, Westmorel. Dr. J. E. SMITH.—Near Kendal. Mr. GOUGH.—Baydales near Darlington. Mr. ROBSON.] P. June.

S. Leaves spear-shaped, very finely serrated: petals cloven. Holo'stea.

*Dicks. h. s.–E. bot.* 511–*Curt.–Kniph.* 10–*Walc.–Mill. ill.–Fuchs.* 136–*J. B.* iii. 361. 2–*Trag.* 329–*Dod.* 563–*Lob. obs.* 26. 2–*Ger. em.* 47–*Park.* 1325–*Pet.* 58. 1–*Ger.* 43. 1.

*Leaves* spear-strap-shaped, in pairs, at the joints of the stem, sitting; the edges rolled inwards, set with fine prickles; mid-rib underneath beset with small prickles; above smooth, and marked with a hollow groove running lengthwise along the middle. *Flowers* white.

*Greater Stitchwort.* Hedges and woods, common. P. April, May.

S. Petals deeply divided: leaves egg-heart-shaped: stems with a hairy ridge on one side. me'dia.

*E. bot.* 537–*Fl. dan.* 525, *and* 438–*Curt.–Sheldr.* 9–*Walc.–Dod.* 29. 2–*Lob. obs.* 245. 3–*Ger. em.* 611. 2–*Park.* 760–*H. ox.* v. 23. 4–*Blackw.* 164–*Fuchs.* 21–*J. B.* iii. 6. 363–*Trag.* 385–*Lonic.* i. 167. 1 *and* 2–*Ger.* 488. 2. *and* 489.

This very common plant which grows almost in all situations from damp and almost boggy woods to the dryest gravel walks in gardens, is consequently subject to great alterations in its appearance. Those who have only seen it in its usual state as garden Chickweed, would hardly know it again in woods where it sometimes exceeds half a yard in height, and has leaves

near 2 inches long and more than 1 inch broad resembling in its habit the Stellaria nemorum, or the Cerastium aquaticum; distinguishable however from the latter by the number of pistils, and from the former by the woolly or hairy ridge extending along the stem.

The great uncertainty in the number of stamens occasions some difficulty to the young botanist. In its truly wild state, in damp woods and hedge bottoms with a northern aspect, whatever be its size, it has almost always 10 stamens. In dryer soils and more sunny exposures the stamens are usually 5 or 3; and this is also generally the case in gardens, though sometimes flowers are found with only 1 or 2 stamens. The calyx in all these different states is sometimes smooth, sometimes hairy. The other parts of the fructification are very constant, and the capsule opening with 6 valves, compels us to consider it as a species of Stellaria rather than as an Alsine; its further agreement with the former genus will also be evinced by the following description.

STEM, thickest upwards, smooth and cylindrical, except a ridge on one, rarely on two sides, and this ridge is woolly.

*Leaf-stalks* broad, hollowed on the upper surface, convex underneath.

LEAVES, the lower on leaf-stalks, the upper sitting; opposite, varying from heart to heart-spear-shaped, and egg-spear-shaped, tapering to a point, smooth, sometimes hairy at the edges.

FRUITST. mostly terminating, $1\frac{1}{4}$ to $\frac{1}{2}$ inch long, 1-flowered, hairy, standing out horizontally, or even pointing downwards after flowering.

CALYX, 5-leaved, *leafits* concave, between egg and spear-shaped, permanent, either hairy or smooth.

BLOSS. *Petals* 5, deeply divided, segments flat, betwixt spear and egg-shaped, shrivelling.

STAM. *Filaments* 10, the 5 outer shorter than the 5 inner ones, glandular at the base. *Anthers* small, oblong, double.

PISTIL. *Germen* roundish, with 3 blunt corners and 3 flatted sides. *Styles* 3, hair-like, expanding, after flowering reflected. *Summits* simple, blunt.

S. VESS. *Capsule* roundish, covered by the calyx closing upon it, of 1 cell and 6 valves.

SEEDS many, roundish, compressed, rough with tubercles, fixed to the receptacle.

*Common Chickweed.* Alsine *media.* LINN. Alsine *media.* pentastemon, or 5-stamened, fl. dan. 525; Bot. arr. ed. ii. 323. Alsine *media* decastemon, or 10-stamened, fl. dan. 438; Bot. arr. 324. A March—Oct.*

S. Leaves strap-shaped, very entire: flowers in panicles. gramin'ea.

*E. bot.* 803–*Kniph.* 10–*Gmel.* iv. 61. 2–*Pet.* 58. 3–*Ger.* 43. 2–*J. B.* iii. 361. 3.

*Calyx* leaves ribbed, in the S. Holostea not so. Dr. STOKES. *Leaves* strap-spear-shaped. *Petals* as long as the cup; white.

*Lesser Stitchwort.* Meadows, pastures, hedge banks. A. May.

S. Leaves spear-strap-shaped, very entire, glaucous green, in cross-pairs: petals half as large again as the calyx. *Fl. ox.*† glau'ca.

*E. bot.* 825–*Pet.* 58. 2.

Corners of the stem roughish. *Leaves* strap-shaped, acute, very entire; but when magnified the edges appear set with very minute teeth, though not rough to the touch. *Panicle* lateral. *Petals* not quite twice the length of the calyx. The stem and leaves appear under a lens sprinkled with numerous, minute, white dots, and its glaucous colour is owing to this circumstance. Mr. BROWN.

Differs from the S. *graminea,* not only in having shorter and stiffer stems, but the leaves also are more rigid, glaucous and acute, and the flowers are larger. *Ray. Syn.* 347. 3. *Flowers* white.

*Glaucous leaved Stitchwort.* S. *media.* Fl. ox. S. *graminea.* β. Huds. On ditch banks in the Isle of Ely, plentiful. RAY.

* Flowers upright, and open from 9 in the morning to noon; but if it rains that day they do not open. After rain they become pendent, but in the course of a few days rise again. Caps. opens with 6 valves, letting fall the seeds. Seeds round, compressed, yellow, rough with little tubercles. Bloss. white.—This species is a notable instance of what is called the *Sleep of Plants*—for every night the leaves approach in pairs, so as to include within their upper surfaces the tender rudiments of the new shoots; and the uppermost pair but one, at the end of the stalk, are furnished with longer leaf-stalks than the others, so that they can close upon the terminating pair, and protect the end of the branch. LINN. The young shoots and leaves, when boiled, can hardly be distinguished from spring spinach, and are equally wholesome. Swine are extremely fond of it; cows and horses eat it; sheep are indifferent to it; and goats refuse it. It is a grateful food to small birds and to young chickens.

† As it appears necessary to introduce the Alsine media into this genus, the trivial name affixed to this plant by Dr. Sibthorpe, could not well be retained.

Otmore, Oxfordshire. SIBTHORP. [Marshy ground on the top of Braid-hill, near Edinburgh. Mr. BROWN. About Falmouth.] P. June, July.

uligino'sa. S. Leaves spear-shaped, very entire: stems trailing: panicles lateral. SCHREB.

*Pet.* 58. 4–*Ger.* 490. 9–*Ger. em.* 613. 8–*H. ox.* v. 23. 8–*J. B.* iii. 365. 2.

*Leaves* fringed at the base. *Fruit-stalks* from about the middle, and from near the end of the stem, in threes, from the bosom of the leaves, the 2 lateral ones dividing into 3, and bearing 3 flowers. *Petals* shorter than the calyx, divided down to the base, the segments distant. *Stamens*, 5 inserted into the claws of the petals, the other 5 into as many glands, surrounding the germen. LEERS. *Stems* several, from 2 to 12 inches high, square, weak, and sometimes creeping at the base, above upright, extending beyond the panicles, but little branched; branches upright. *Leaves* smooth, except at the base, sitting or tapering down into short leaf-stalks, upright. *Panicles* pointing one way, sitting, upright, generally 2 on each stem; mostly consiting of 3 primary branches, the outermost bearing a single flower: the other 2, in the more luxuriant plants, dividing into forks, with a fruitstalk bearing a single flower at each fork; the shorter as long again as the single fruitstalk; and the 3d nearly as long again as the 2d. *Flower-scales* 2, at each fork of the panicle. *Petals* white; segments strap-shaped. *Styles* sometimes 4 and 5. ST.

S. *uliginosa.* SCHREB. consp. pl. ap. spicileg.—S. *dilleniana.* LEERS.—S. *graminea* γ LINN. *fl. suec.* 393, *and Huds. fl. ang.* 190. Lightf. β.—*Alsine longifolia uliginosis proveniens locis. J. B.* iii. 365. *R. Syn.* 347.—*Alsine fontana. Ger.* 490, *em.* 613.—*Alsine aquatica media. Bauh. pin.* 251.—*Alsine. Hall. n.* 882. β.—*Bog. Stitchwort. Fountain Chickweed.* Sides of springs, rivulets, ditches, and boggy meadows. [Rivulets on the side of Malvern Hills, and on the side of the hill at west end of Powick's Ham, near Worcester. ST.—Moist grounds, near Leeds. Mr. WOOD —Marshes in Cornwall. Mr. STACKHOUSE. Hockley pool dam, near Birmingham.] A. June.

cerastoi'des. S. Leaves oblong: fruit-stalks mostly 2-flowered.

*Dicks. h. s.–Smith pl. ic.* 15–*Fl. dan.* 92–*Gunn.* ii. 62–*Jacq. coll.* i. 19.

*Stems* trailing; flowering branches ascending, naked, cylindrical, smooth. *Leaves* sitting, opposite, egg-oblong, blunt, very smooth. *Flowers* terminating, 1, 2 or 3, on long fruit-stalks, the lateral ones with a pair of floral-leaves. *Petals*

cloven, white. LINN. and SMITH. It is certainly a CERASTIUM, differing only in the number of styles, a difference by no means constant. I have found it with 4 and 5, but, I confess, more frequently with 3 only. Its resemblance to C. *arvense* is very striking. Mr. BROWN.

Found by Mr. Dickson on Ben Nevis, Scotland. [On the side of Ben Bourde, a high mountain 7 miles from Invercauld. Mr. BROWN.] Aug.

ARENA'RIA. *Cal.* 5 leaves, expanding: *petals* 5, entire: *caps.* 1-celled, many-seeded.

A. Leaves egg-shaped, acute, fleshy. peploi'des.

*Dicks. h. s.–E. bot.* 189–*Fl. dan.* 624–*Pet.* 65. 9–*Ger. em.* 622. 1.

Glands on the receptacle. LINN. *Leaves* egg-spear-shaped, somewhat embracing the stem, smooth, succulent, the points turned back. *Flowers* white.

*Sea Sandwort.* Sea shore frequent, and salt water marshes. P. June, July.

A. Leaves egg-shaped, 3-fibred, pointed, on leaf-stalks. triner'via.

*Curt.* 272–*Walc.–Fl. dan.* 429–*J. B.* 364. 1–*Pet.* 59. 1.

*Stems* reclining, downy, cylindrical, several growing together in tufts. *Branches* mostly from the upper side. *Leaves* beset with very short fine hairs, and fringed with short fine bristles; the *lower* nearly heart-shaped, on flat leaf-stalks; the *upper* spear-egg-shaped, nearly sitting. *Petals* expanding, half as long as the calyx; white. *Stamens* as long as the cup; every other shorter. *Styles* sometimes 2 or 4. *Summits* bent back, woolly. Has greatly the habit of the Stellaria media.

*Plantain-leaved Sandwort.* Woods and wet hedges. A. May—July.

A. Leaves somewhat egg-shaped, acute, sitting: blossoms shorter than the calyx. serpyllifo'lia.

*Fl. dan.* 977–*Curt.* 268–*Ger.* 488. 3–*Dod.* 30. 1–*Lob. obs.* 246. 2–*Ger. em.* 612. 3–*Park.* 1259. 3–*Pet.* 59. 2.

*Stems* spreading, forked upwards. *Leaves* stiffish, somewhat woolly. *Flowers* white.

*Least Chickweed. Thyme-leaved Sandwort.* Roofs, walls, sandy and very dry places. A. May—July.

A. Leaves semi-cylindrical, tapering, opposite, as long as the joints: stipulæ membranaceous, acute, stems prostrate: capsules longer than the calyx. mari'na.

*Fl. dan.* 740–*Pet.* 59. 7–*H. ox.* v. 23. 15.

*Leaves* frequently longer than the joints. WOODWARD. *Leaves* and fruitstalks woolly and clammy. LINN. *Stamens* variable in number. RELHAN. *Seeds* bordered. *Flowers* purplish.

A. rubra. β LINN.—Salt marshes, and on the sea coast, common. [Portreath, near Redruth, Cornwall. Mr. WATT.—In a salt marsh near Shirley Wich, Staffordshire. St. Teignmouth, Devon, and Fresh Water Cove in the Isle of Wight.]

P. May—Oct.*

ru'bra. A. Leaves thread-shaped, opposite, but half the length of the joints of the stem: stem prostrate: calyx as long as the capsule.

*E. bot.* 852–*Kniph.* 11–*J. B.* iii. 722. 3–*Pet.* 59. 8.

Stipulæ membranaceous, sheathing. LINN. Stamens 5; styles from 3 to 5. HALLER. *Stems* smooth. *Leaves* flatted, smooth, terminated by a little sharp point. *Calyx* leaves spear-shaped, concave, membranaceous at the edge, clammy, and beset with minute hairs with globular heads. *Summits* woolly. *Petals* purple.

*Purple Spurrey, or Sandwort.* Sandy meadows and cornfields. A. June—Aug.

me'dia. A. Leaves strap-awl-shaped, 6 in a whirl: stem upright: capsules twice the length of the calyx.

*Ephem. act. nat. cur.* 5. *s.* 6. *t.* 4. (Reichard and Gmelin.)

Smaller than A. *marina*. *Stem*, knots more distant than in A. *rubra*. *Flowers* somewhat smaller than in either. *Seeds* smaller than those of A. *marina*, variable in shape, but in general not bordered. RAY. Resembles A. marina, but less branched; stems more bent, pubescent. *Flowers* white; petals scarcely larger than the calyx. *Seeds* bordered. LINN. Pistils 5. POLLICH. Lower leaves expanding, reflected, upper ones about the length of the joints. *Stamens* 4, 5, or 7. *Petals* purple. *Seeds* flat, between half heart-shaped and kidney-shaped, the circular edge downy, with an elevated rounded border, the straight edge plain, dark brown; some encompassed with a membranaceous border, deeper than half the breadth of the seed, white, with radiated scores, toothed at the edge. So remarkable a difference in structure one might have expected to afford a mark of specific distinction, but, though generally the two kinds of seeds are found on different plants, yet they are sometimes seen in the same seed-vessel. Dr. STOKES. Spergula maritima flore parvo cæruleo, semine vario, RAY Syn. 351, according to Hudson.

* It is succulent, and very much resembles Samphire, and considerable quantities of it are actually pickled and sold for that plant. Mr. WATT.

Pastures on the sea-coast. Huds.—With A. *marina* on Shell-coast in the Isle of Sheppey. Ray. A. June—Sept.

It is not quite clear that this plant of Ray and Hudson is the real A. media of Linn. It may be only a var. of the A. marina.

A. Leaves awl-shaped: stems panicled: calyx taper-pointed, scored. ver'na.

*E. bot.* 512. *Jacq. austr.* 404–*Pet.* 59. 4–*Herm. par.* 12.

Differs from A. *saxatilis* in its stems being scarcely a hand's breadth high, and beset with scattered hairs; *fruit-stalks* hairy. Linn.

*Mountain Sandwort.* Mountainous situations about Settle, Kendal, Holywell, and Llanberris. [Arthur's Seat, Edinburgh. St.—Matlock, Derbyshire, and in the northern counties. Mr. Woodward.—Road side between Holywell and St. Asaph. Mr. Wood. Blackford and Braid Hills, and on Craig Lockart, all near Edinburgh. Mr. Brown. Snowdon, and Holywell. Mr. Griffith.] P. May—Aug.

A. Leaves awl-shaped: stems panicled: capsules upright: petals shorter than the calyx, spear-shaped. tenuifo'lia.

*Dicks. h. s.–E. bot.* 219–*Vaill.* 3. 1–*Fl. dan.* 389–*Seguier.* i. 6. 2–*J. B.* iii. 364. 3–*Pet.* 59. 3.

*Leaves* awl-shaped, connected at the base. *Calyx* leaves greatly tapering, or rather awned, painted underneath with two green lines. *Petals* broad-spear-shaped, half as short again as the calyx. Linn. *Flowers* white, only one upon a fruit-stalk, but these so numerous as to resemble a panicle. E. bot. The petals being shorter than the calyx, distinguishes this from the preceding, and from the two subsequent species. It is also much taller and much more branched than any of them, often attaining the height of 8 or 9 inches.

*Fine-leaved Sandwort.* Sandy meadows and pastures. Corn-fields on the borders of Triplow Heath; Gogmagog Hills, Cambridgeshire. Near Deptford; Cornbury Quarry, near Charlbury, Oxfordshire. On a wall in Battersea. [Near Cley, Norfolk. Mr. Crowe.—Near Bury. Mr. Woodward.—Malvern Hill, Worcestershire. Mr. Ballard.] A. June, July.

A. Leaves awl-shaped, stiff and sharp: stems upright: cups scored: capsules oblong. juniperi'na.

*Ger. fl. prov.* 15. 1.

*Stem* 5 or 6 inches high, stiff and straight, smooth: *leaves* awl-shaped, not easily bending, straight, sharp-pointed at the end, and thorny: *flowers* in a bunch, *calyx* oblong, acute, with

5 fibres: *petals* spear-shaped, white: *capsule* oblong, a little longer than the calyx. LINN.—Near 4 inches high. *Root-leaves* in bundles, very slender but strongly ribbed, pointed. *Panicle* few-flowered. *Petals* white, rather longer than the leaves of the calyx.

Specimen from Mr. GRIFFITH, who gathered it near Llanberris. P.

laricifo'lia. A. Leaves bristle-shaped: stem rather bare above: calyx somewhat hairy.

*Jacq. austr.* 272–*Magn. hort.* 2–*J. B.* iii. 360. 2.

*Caps.* oblong, streaked, cylindrical, downy. LINN.

*Larch-leaved Sandwort.* Mountains in the North. [On Snowdon. Mr. GRIFFITH.] P. July, Aug.

The last 4 species are not easily to be distinguished by the specific characters. The leaves in all are very slender, the stems more or less hirsute, as are also the calyxes; the calyx leaves are ribbed, and they all bear their flowers in panicles. The best distinctions may perhaps be taken from the consideration of the calyx leaves and petals; thus:

In the Aren. *tenuifolia*, the calyx leaves are spear-awl-shaped, much longer than the petals.

..... *laricifolia*, the calyx leaves are strap-spear-shaped, and shorter than the petals.

..... *verna*, the calyx leaves are spear-shaped, and shorter than the petals.

..... *juniperina*, the calyx leaves are egg-shaped, scarcely hirsute, and nearly as long as the petals.

CHERLE'RIA. *Cal.* 5 leaves: *nectaries* 5, cloven, resembling petals: *anthers*, every other barren: *caps.* 1-celled, 3-valved, 3-seeded.

sedoi'des. C.

*Dicks. h. s.–Jacq. austr.* 284–*Hall. opusc.* 1. 3. *at p.* 300–*Hall.* 21. 1. *at* ii. *p.* 114–*Pen. voy.* 33–*Pluk.* 42. 8–*Park.* 737. 11–*H. ox.* xii. 6. 14.

*Leaves* opposite, strap-shaped, rough at the edge, connected at the base into a kind of sheath. When the leaves fall off, the sheath and keel of the leaves remain, cloathing the stem, whence it has an affinity to the Galliflower tribe. LINN.

*Moss-like Cyphel.* Highland Mountains, near their summits. [On Ben Teskerny and Craig Calleach; but in immense quan-

tity on Ben Lawers, but only at truly alpine elevations. Mr. Brown.] P. July, Aug.

## PENTAGYNIA.

COTYLE'DON. *Calyx* 4 or 5-cleft: *bloss.* 1 petal: *nectariferous scales* 5, at the base of the germens: *caps.* 5.

C. Leaves target or kidney-shaped, scolloped: stem nearly simple: flowers pendent: floral-leaves entire. Huds. Umbili'cus.

*Clus.* ii. 63. 1–*Blackw.* 263–*Dod.* 131. 1–*Lob. obs.* 209. 3. *Ger. em.* 528. 1–*Park.* 740. 1–*Ger.* 423. 1–*J. B.* iii. 684. 1–*Matth.* 1122.

*Root* oblong, sometimes the size of a nutmeg, flat at bottom, covered with small fibres, but no extended roots. Mr. Stackhouse. Whole *plant* fleshy. *Leaves* thick, fleshy, circular, with central leaf-stalks, concave on the upper surface, with a hollow dimple nearly in the centre, just opposite to the insertion of the leaf-stalk underneath. *Stem-leaves* resembling the root-leaves, but not so exactly circular, and the leaf-stalk not fixed so nearly in the centre. *Stem* upright, cloathed with a long spike-like bunch of pendent flowers, but in the smaller plants the flowers are sometimes upright or horizontal. *Floral-leaves* strap-spear-shaped, entire. *Bloss.* tubular, 5-sided, pale greenish yellow.

C *umbilicus* β Linn. *Common Navelwort. Kidneywort. Wall Pennywort.* Old walls and moist rocks. West of England. Caernarvonshire, and about Troutbeck, Westmoreland. [Old walls at Peterborough; and Thorpe, between Peterborough and Wandsford. Dr. J. E. Smith, and Mr. Woodward. Walls, Cornwall, Mr. Watt. Plentifully throughout Caernarvonshire and Merionethshire. Mr. Wood. Malvern Hill, Worcestershire. Mr. Ballard. St. In Devon and Cornwall, very luxuriant. On walls, roofs, and rocks.] P. June—Oct.

C. Leaves target-shaped, scolloped: stem nearly simple: flowers upright: floral-leaves toothed. Huds. lu'tea.

*Dodart.* 73. *at p.* 265, *(I have not seen.)*

*Roots* knotty, creeping. Morison.

C. *umbilicus* α Linn. *Yellow Navelwort.* Walls and moist rocks in the West Riding of Yorkshire. Mr. Tofield. In the garden of Mr. Clement, who received it out of Somersetshire. Hudson. P. June.

SE'DUM. *Cal.* 5-cleft: *bloss.* none, or 5 petals: *nectariferous scales* 5, at the base of the germens: *caps.* 5, distinct, like a legumen.

(1) *Leaves flat.*

Teleph'ium. S. Leaves flattish, serrated: corymbus leafy: stem upright.

Var. 1. White-flowered.

*Kniph.* 4–*Ludw.* 200–*Fuchs.* 800–*J. B.* iii. 681–*Matth.* 636–*Clus.* ii. 66. 2–*Dod.* 130. 2–*Lob. obs.* 211–*Ger. em.* 519. 2–*Park.* 726. 2–H. *ox.* xii. 10. *row* 1. 1–*Ger.* 416. 2–*Black.* 191. 2.

More rarely met with than the following.

Var. 2. Purple-flowered.

*Curt.* 210–*Fl. dan.* 686–*Fuchs.* 801–*Kniph.* 4–*Clus.* ii. 66. 1–*Ger.* 417. 1–*H. ox.* xii. 10. *row* 1. 2–*Blackw.* 191–*Lon.* ii. 24. 2–*Trag.* 373.

*Orpine Stonecrop.* Pastures and hedges. [Sandy fields, Suff. frequent. Mr. Woodward. Near Ashburne. Mr. Whately. Fields about Robinson's End. Malvern Chace. Mr. Ballard. Many hedges about Manchester. Mr. Caley. Crevices of the rocks on Haugheman Hill near Salop. Mr. Aikin. In a pasture by the mount at Mr. Pearson's, Tettenhall, Staffordsh.] P. Aug.*

(2) *Leaves roundish, nearly cylindrical.*

villo'sum. S. Hairy and viscid: leaves flatted, both them and the leaf-stalks hairy: stem upright, somewhat branched at the base.

*Fl. dan.* 24–*E. bot.* 394–*Clus.* ii. 59. 3–*Ger. em.* 516. 1–*Park.* 734. 6–*H. ox.* xii. 8. 48–*Pet.* 42. 7.

*Stem* smooth below, hairy and clammy above. *Leaves* fleshy, oblong, nearly flat above, hairy, the lower ones smooth. *Fruit-stalks* hairy, clammy, solitary. *Cal.* hairy. Woodward. *Stem* upright, from 3 to 5 inches high. *Flowers* flesh-coloured.

*Marsh Stonecrop.* Moist mountainous meadows and pastures. Moist rocks about Ingleborough Hill, Yorksh. and Hartside Hill, near Gamblesby, Cumberland. Ray. Mr. Woodward. Hinkleham, near Settle, Scotland. [Carr End, Wensleydale, Yorkshire. Curt. Close by Weathercoat Cave, at the foot of Ingleborough. Mr. Woodward. A common plant on the banks of streams in Scotland, which run from moorish grounds. Dr. Hope.] A. June, July.

* A decoction of the leaves in milk is a forcible diuretic. It has been given with success to cure the piles.—Cows, goats, sheep, and swine eat it; horses refuse it.

S. Leaves oblong, blunt, nearly cylindrical, sitting, expanding: tuft branching. al'bum.

*Curt. Fl. dan.* 66–*Blackw.* 428–*Allioni* 65. 2–*Ger.* 413. 2–*Clus.* ii. 59. 1–*Dod.* 129. 2–*Lob. obs.* 205. 2–*Ger. em.* 512. 2–*Park.* 734. 1–*H. ox.* xii. 7. 23–*Fuchs.* 35–*Trag.* 378–*J. B.* iii. 690–*Walc.*–*Lonic.* i. 60. 1.

*Stems* trailing, striking root; flowering branches upright, bearing a forked tuft of flowers with subdivided fruit-stalks. *Leaves* semi-cylindrical, being flatted above and loose underneath at the base. *Flowers* white, but with reddish streaks, and a general blush of red, and the whole plant has sometimes a purplish tinge.

*White-flowered Stonecrop. Sedum minus teretifol. alb. R. Syn. p.* 271. Sr. Walls and roofs. [Walls at Peterborough. Mr. WOODWARD. Rocks above Great Malvern. NASH. Wick Cliffs. Mr. SWAYNE.] P. June, July.

S. Leaves nearly egg-shaped, growing to and sitting, bulging, nearly upright, alternate: tuft with 3 divisions. a'cre.

*Curt.*–*E. bot.* 839–*Woodv.* 231–*Sheldr.* 42–*Fuchs.* 36–*J. B.* iii. 694. 2–*Trag.* 379–*Blackw.* 232–*Ger.* 415–*Clus.* ii. 61. 1–*Ger. em.* 517. 2–*Park.* 735. 7–*H. ox.* xii. 6. *row* 3. 12–*Pet.* 42. 9–*Dod.* 129. 3–*Lob. obs.* 205. 4–*Park.* 735. 8–*Matth.* 1119–*Lonic.* i. 59. 2.

*Shoots* club-shaped, closely tiled with leaves on every side. *Flowers* terminating; yellow.

*Pepper Stonecrop. Wall Pepper.* Walls, roofs, rocks, and dry pastures. P. June, July.*

* It is very acrid. Applied externally it blisters. Taken inwardly it excites vomiting. In scorbutic cases, and quartan agues, it is an excellent medicine under proper management. This plant continues to grow when hung up by the root, which has been considered as a proof that it receives its nourishment principally from the air; but from some accurate experiments made by Mr. Gough of Kendal, and communicated to me, it appears that though the life of the plant is retained in such a situation for some weeks, yet it seems to be at the expence of the juices which its succulent leaves had previously imbibed. At the end of 3 weeks, the plant, suspended towards the end of June, before a window with a northern aspect, had lost about half its weight, though it had put out some fine fibres from the root, and had still life enough to enable it to turn to the light after having been purposely turned from it. After being kept in water for 24 hours, it regained more than half of what it had lost. Mr. Gough therefore very justly considers the succulent leaves as reservoirs, which support it in dry weather, and are again replenished in rainy seasons, but does not admit the common observation that it attracts its nourishment from the air more than other plants do. He used plants which had not flowered, because, after flowering, the leaves are apt to fall off. Goats eat it; cows, horses, sheep, and swine refuse it.

sexangulare. S. Leaves somewhat egg-shaped, growing to and sitting, bulging, nearly upright, tiled in 6 rows.

*Curt.* 225.

Agrees with the *S. acre* in appearance, flowers, and situation, but differs in its leaves being, before blossoming, evidently tiled in 6 rows, and instead of having a biting, acrid taste, being insipid. *Branches* never so copious as to form a tuft. *Flowers* in each branch of the tuft seldom more than 3. LINN. *Flowers* yellow. Number of stamens, &c. uncertain, varying from 8 to 12. The rows of leaves most obvious in the young shoots.

*Insipid Stonecrop.* Walls, roofs, and dry pastures. Near Northfleet and Sheerness, the Isle of Sheppey, and South side of Greenwich Park Wall, near the West corner. P. June.

anglicum. S. Leaves somewhat egg-shaped, growing to and sitting, bulging, alternate: tuft branched, forked. HUDS.

*Fl. dan.* 82–*E. bot.* 171–*Ray* 12. 2. *at p.* 326–*Pet.* 42. 10.

*Root* branching. *Stem* trailing, cylindrical, leafy, smooth, branching, reddish: *branches* alternate. *Leaves* tiled generally in 3 rows, somewhat pointed, flattish above, bellying underneath, pulpy, naked. *Tuft*, branches somewhat bowed back. *Flowers* sitting, pointing one way. *Bloss.* white, or purplish white. *Caps.* purplish. HUDS.

*S. rubens.* LIGHTF. *English Stonecrop.* Rocks, roofs, walls, in Wales and the N. of England. [On all the coast of Suffolk. WOODW. Rocks between Dundee and Broughty Castle. Mr. BROWN. On rocks on the Devonshire and Cornish coasts, and on roofs at Penzance in profusion. On Dartmoor.] P. May, June.

dasyphyllum. S. Leaves opposite, egg-shaped, blunt, fleshy: stem weak: flowers scattered.

*E. bot.* 656–*Jacq. hort.* 153–*Curt.* 147–*H. ox.* xii. 7. 35–*J. B.* iii. 691.

*Stems* numerous, weak, trailing. *Leaves* broader than they are long, nearly flat above, convex underneath, sea-green with a tinge of purple. *Flowers* few, terminating, solitary. *Fruit-stalks* branched. Mr. WOODWARD. Flowers whitish. Stamens often 11 or 12. Pistils and petals 6.

*Thick-leaved Stonecrop.* Walls and roofs. Market-eit near Market-street; Hammersmith and Kew. [Bugden, Huntingdonshire. HUDS. Mr. WOODW. Near London. Mr. WOODWARD.] P. June, July.

reflexum. S. Leaves awl-shaped, scattered, loose at the base; the lower ones bowed back.

*E. bot.* 695–*Fl. dan.* 113–*Clus.* ii. 60. 2–*Dod.* 129. 1–*Ger. em.* 512. 1–*H. ox.* xii. 6. 6–*Pet.* 42. 5–*Clus.* ii. 60. 1–*Ger. em.* 513. 6–*H. ox.* xii. 6. 7–*Pet.* 42. 6–*Fuchs.* 33–*J. B.* iii. 692. 3–*Ger.* 412. 1.

Branches often reflected. *Leaves* green, often with a tinge of red, not crowded, lower ones bowed back, quickly falling off. Calyx segments 6 or 7. Petals from 5 to 7. Stamens 10 or 12. Pistils and nectaries 6. *Flowers* bright yellow.

*Yellow Stonecrop. Prickmadam.* Walls, roofs and rocks, frequent. [Malvern Hill. Mr. BALLARD.] P. July.

S. Leaves awl-shaped, in 5 rows, crowded, loose at the base; flowers in tufts. Rupestre.

*E. bot.* 170–*Dill. elth.* 256. 333–*Pet.* 42. 8.

*Leaves* sea-green, more thickly awl-shaped than in the S. reflexum; tiled in 5 lines. LINN. *Stems* before flowering closely tiled. *Leaves* scattered. *Flowers* in a close, thick, branched tuft. *Bloss.* yellow. Mr. WOODWARD. The disposition of the leaves in 5 rows may be best observed by viewing the plant with the ends of the branches opposed to the eye. Their points are not bent back as they are in the S. reflexum. The flowers have frequently 6 or 7 parts. Blossoms yellow.

*Rock Stonecrop.* Chedder and St. Vincent's Rocks. In Wales. P. July.*

## OX'ALIS. *Calyx* 5 leaves: petals connected by the claws: capsules 5-sided opening at the corners.

O. Stalk with 1 flower: leaves 3 together: leafits inversely-heart-shaped, hairy. Acetosella.

*Curt.* 111–*E. bot.* 762–*Fl. dan.* 80–*Sheldr.* 26–*Mill. ill.*–*Walc.*–*Blackw.* 308–*Woodv.* 20–*Fuchs.* 567–*J. B.* ii. 387. 2–*H. ox.* ii. 17. *row* 4. 1–*Trag.* 521–*Mill.* 195. 2–*Dod.* 578. 2–*Lob. obs.* 499. 1–*Ger. em.* 1201–*Park.* 746. 1–*Pet.* 63. 7–*Lonic.* i. 219. 1–*Matth.* 837–*Ger.* 1030. 1–*Jacq. ox.* 80. 1.

Styles equal. JACQ. *Leaves* frequently purple underneath; *leafits close against rain. Flowers* large. *Petals* white, beautifully veined with purple. Mr. WOODWARD. The *Petals* are connected by small fleshy excrescences, the claws being inserted into the receptacle separate and distinct.

* Both this and the S. reflexum are cultivated in Holland and Germany to mix with lettuces in sallads. It is acrid to the taste.

*Wood Sorrel. Cuckow-bread. Sour Trefoil.* Woods, shady hedges, and heaths. P. April.*

Var. 2. Blossoms purple.
Lane between North Owram and Halifax. RAY.

cornicula'ta. O. Stem reclining, herbaceous: fruit-stalks forming umbels.

*Jacq. Ox.* 5–*Fl. dan.* 873–*Clus.* ii. 249. 1–*Dod.* 579. 1–*Lob. obs.* 495. 2–*Ger. em.* 1202–*Park.* 746. 2–*J. B.* ii. 388–*H. ox.* ii. 17. *row* 4. 2–*Ger.* 1030. 2.

*Filaments* connected as in the class Monadelphia. ST. *Umbel* generally of 2 flowers. Mr. MARTYN. *Seeds* brown, transversely scored, inclosed in a transparent seed-coat, which, being pressed, opens with a jerk, and throws out the seed to some distance. Mr. HOLLEFEAR. Stem prostrate, striking root. *Styles* nearly equal. JACQUIN. *Capsules* long and pointed. *Blossoms* yellow. O *pusilla.* Mr. Salisbury. Linn. Tr. ii. 243.

*Yellow-flowered Cuckowbread.* First found in Great Britain by Mr. J. Turner, in several places in the neighbourhood of Exeter. BERKENH. *Outlines* ii. *p.* 127. Mr. MARTIN. [In a waste rubbishy spot at Dawlish, Devonshire. Sept. 1781, and since in several other places in the same county. Mr. MARTIN.]

A. but if housed during the winter P. RETZ. i. 52. May—Oct.

AGROSTEM'MA. *Calyx* 1 leaf, like leather: petals 5, with claws; border blunt, undivided: *caps.* 1-celled.

Githa'go. A. Plant hairy: calyx as long as (or longer than) the bloss. petals entire, not crowned.

*E. bot.* 741–*Curt.* 209–*Kniph.* 5–*Fl. dan.* 576–*Dod.* 173–*Lob. obs.* 23. 2–*Ger. em.* 1087–*Park.* 632. 9–*H. ox.* v.

* An infusion of the leaves is an agreeable liquor in ardent fevers, and boiled with milk they make an agreeable whey. LEWIS. Sheep, goats, and swine eat it. Cows are not fond of it. Horses refuse it. The juice is gratefully acid. The London College directs a conserve to be made of the leaves, beaten with thrice their weight of fine sugar. The expressed juice depurated, properly evaporated, and set in a cool place, affords a crystalline acid salt in considerable quantity, which may be used wherever vegetable acids are wanted. It is employed to take iron moulds out of linen, and is sold under the name of Essential Salt of Lemons.

We are lately assured that the leaves and stalks wrapped in a cabbage leaf, and macerated in warm ashes until reduced to a pulp, have been successfully applied to scrophulous ulcers. This poultice should remain on the sore for 24 hours, and be repeated 4 times. Afterwards the ulcer is to be dressed with a poultice made of the roots of the Meadow-sweet bruised and mixed up with the scum of sour buttermilk. BEDDOES on Fact. Airs.

21. 31–*Pet.* 57. 12–*Fuchs.* 127–*J. B.* iii. 341. 2–*Trag.* 127–*Matth.* 798–*Ger.* 926–*Walc.*–*Lonic.* i. 83. 3.

*Calyx* 10-ribbed, longer than the blossom. Flowers purplish red, sometimes white.

*Corn Cockle.* Cornfields, not unfrequent. A. June, July.

## LYCHNIS. *Calyx* 1 leaf, oblong, even: petals 5, with claws, limbs often cloven: *caps.* 1 to 5-celled.

L. Stamens and pistils in distinct plants: capsules 1-celled. dioi'ca.

Var. 1. *diurna.* Blossoms red: capsules roundish.

*Curt.*–*Kniph.* 11–*Ludw.* 170–*Walc.*–*Clus.* i. 294. 1–*Dod.* 171. 1–*Lob. obs.* 181. 2–*Ger. em.* 469. 1–*Park.* 631. 1 *and* 2–*H. ox.* v. 21. 23–*Pet.* 57. 6.

*Upper* stem-leaves generally spear-shaped, lower ones egg-shaped, tapering at each end: but I have a specimen gathered on the rocks at Blaze Castle, near Bristol, in which the upper leaves are egg-shaped, and the lower ones circular. This is a female plant.

*Red-flowered Wild Campion. Campion Cuckow Flower.* Hedges, ditches, and moist woods. The rocks on the Isle of Ailsa are covered with it, where there is none of the white. LIGHTF. [The red flowered very common, the white very rare, about Manchester; the white common about Chester, but none of the red. Mr. CALEY. This fact tends to corroborate the opinion of Dr. Sibthorpe, mentioned below.] P. May—Sept.

Var. 2. *vespertina.* Blossoms white; capsules conical.

*Walc.*–*Matth.* 997–*J. B.* iii. 342–*Pet.* 57. 5–*Fl. dan.* 792–*H. ox.* v. 21. 21.

Both these plants correspond in structure, they both have male and female flowers on separate roots, and both sometimes are found with hermaphrodite flowers. Ray observes that in the red-flowered the stems are weaker and more flaccid than in the other, and from their not growing intermixed, Mr. Woodward and some other judicious botanists believe them to be distinct species. In the white-flowered sort the petals of the male plant have the limbs divided down to the claws, but in the female they are only cloven half way down. The mouth of the blossom is partly closed by a crown formed of 4 little scales at the top of the claw of each petal.

Since the above was written, I perceive that Dr. Sibthorpe in Fl. Oxon. enumerates the red and the white-flowered dioicous Lychnis as distinct species; the former he calls L. *diurna*, remarking that the capsules are roundish, and that its scentless

flowers stand open through the day. The latter he says has conical capsules, that its flowers are odoriferous, and only open towards evening. This he calls L. *vespertina*. These trivial names and his distinction founded on the shape of the capsules are therefore added to their respective varieties, though I am far from thinking that they may not be distinct species.

More lately still Mr. Robson informs me that, from having cultivated both, he is satisfied they are distinct species, though they are both liable to change the colour of their blossoms to flesh colour.

*Wild White Campion*, or *Cuckow Flower*. Pastures, hedges, [and fallow fields, sometimes so plentifully as to make them appear at a distance quite white, where the red is never found. St.] P. June—Aug.

Flos-cu'culi. L. Petals (3 or) 4 cleft: fruit roundish; of 1 cell.

*E. bot.* 573–*Curt.*–*Kniph.* 11–*Walc.*–*Fl. dan.* 590–*Trag.* 402–*Lonic.* i. 171. 1–*Ger.* 480. 1 *and* 2–*Clus.* i. 292. 2–*Dod.* 177–*Ger. em.* 600. 1–*H. ox.* v. 20. 8–*Pet.* 56. 6.

Petals, the 2 middle segments the longest; claws with 2 small spear-shaped teeth at the top. *Bloss.* pink, or purplish red; sometimes white.

*Meadow Pinks. Wild Williams. Meadow Cuckow flower. Ragged Robin. Crow flower.* Moist meadows and pastures. P. June.

Var. 2. Double flowered.

*Mill.* 169. 2–*Clus.* i. 293. 1–*Ger. em.* 600. 3–*Park. par.* 255. 5.

*Pleasant in Sight.* Meadow near Bungay, Suffolk. Woodw.

Visca'ria. L. Petals nearly entire.

*E. bot.* 788–*Fl. dan.* 1032–*Kniph.* 12–*Clus.* i. 289. 2–*Ger. em.* 601. 3–*Park.* 637–*H. ox.* v. 20. 6–*Pet.* 57. 3–*J. B.* iii. 348. 2.

*Stems*, the upper part of the superior joints anointed with a reddish black clammy substance like tar, in which Ants, and other wingless insects are inviscated, in attempting to creep up to the flowers. *Capsules* with 5 cells. Linn. *Stem* upright, simple. *Bloss.* red.

Var. 2. White flowered.

*Red German Catchfly. Catchfly Cuckow Flower.* Mountainous pastures. Sides of Craig Wreidhin Hill, Montgomeryshire. [Rocks in the King's Park, Edinburgh, on the South side; and abundantly at Craig Hall, Perthsh. on rocks. Mr. Brown. Near Croydon, Surrey. Mr. Crowe.] P. May, June.

CERA'STIUM. *Calyx* 5-leaved: *petals* cloven: *caps.* 1-celled, opening at the top.

(1) *Capsules oblong.*

C. Upright, woolly and clammy. vulga'tum.

*E. bot.* 780–*Curt.*–*Vaill.* 30. 3–*Pet.* 58. 5.

*Hairs* on the calyx and on the upper part of the stem ending in oval or globular glands, containing a viscid liquor, which gives a clamminess to the touch. In other respects it approaches very near the *C. viscosum*, but is more upright and less spreading. *Petals* white, shorter than the calyx.—Dr. SMITH, who has rescued this and the following species from their former confusion, observes, that "the light green hue, yellowish in decay, of the *C. vulgatum*, its broad ovate leaves and smaller flowers, distinguish it from the *C. viscosum*."

*C. viscosum.* Bot. Arr. ed. 3.—*Clammy Mouse-ear.* Meadows, pastures, walls, dry banks, and ant-hills. A. April. Oct.

C. Leaves egg-shaped: petals as long as the calyx: stems spreading. visco'sum.

*E. bot.* 790–*Curt.* 130–*Vaill.* 30. 1–*Walc.* 5–*Pet.* 58. 6–*J. B.* iii. 359. 1.

This species is also viscid, "though less so at an advanced age, and in cold weather. E. bot.—The most obvious distinction seems to be the trailing, or upright stems. Whole plant rough with hairs. *Calyx* leaves membranaceous at the edge. *Petals* white, in small poor plants in very dry situations as long as the calyx, in larger and more luxuriant specimens shorter; rarely to be seen in an expanded state.

*C vulgatum* Bot. Arr. ed. 3—*Narrow-leaved Mouse-ear.* Meadows, pastures, walls, sides of roads and amongst rubbish. When growing in bogs the leaves are sometimes as convex as an egg cut through lengthwise. Mr. AIKIN. P. May—Aug.

C. Leaves elliptical, naked, or clothed with long hairs. Panicle forked, of few flowers, furnished with bracteæ. Capsule oblong, curved. *E. bot.* alpi'num.

*E. bot.* 472–*Fl. dan.* 6–*Lightf.* 10. *at p.* 242–*Ray* 15. 2. *at p.* 348.

Whole *plant*, except the petals and capsules, covered with long, soft, shining hairs. *Lower leaves* oval; *upper* oval-spear-shaped, opposite. *Branches* terminated by 1 or 2 flowers. *Flowers* large on separate fruit-stalks, each furnished with 2 opposite spear-shaped floral-leaves. Capsule when ripe lengthened out into a straight horn. WOODWARD.

We have 2 varieties of this, one with the leaves quite smooth and almost glossy; the other with woolly leaves; but they are clearly one species. What can be the cause of the smoothness of the one, growing, as they do, intermixed?—*Flowers* generally 1, and sometimes 2, but in the Dutch gardens several on a stem. LINN. *fl. lapp.* Some *plants* green, and others hoary. Doubted whether not 2 distinct species. RAY. *Hairs* on the fruit-stalks transparent, jointed, the knots somewhat opake. Mr. GRIFFITH. From 2 to 4 inches high. *Flowers* white.

*Alpine Mouse-ear.* Mountains and sides of rills, as on Snowdon, on the north side of Wyddfa and Clogwyn du yn yr Ardue near Llanberris. [Top of Clogwyn y Garnedd, very near to plants of *C. latifolium.* Mr. GRIFFITH.] P. July, Aug.

latifo'lium. C. Leaves elliptical, clothed with short spreading bristles: flower-stalks terminal, simple, mostly solitary: capsule oval. *E. bot.*

*E. bot.* 473–*Jacq. coll.* i. 20.

The *stems* form tufts, but are shorter and more thickly set with leaves than in the *C. alpinum*; the leaves are broader and more obtuse, clothed (*constantly*, as far as we have observed) with numerous short rigid spreading bristly hairs, various in position and direction, making a harsh kind of covering, quite different from the silky hairs of *C. alpinum.* They are also in general more thickly jointed. The *flower-stalks* are terminal, mostly solitary, simple, often as long as the whole stem, clothed with glandular spreading hairs, and frequently destitute of bracteæ. The *flowers* differ but little from that species. It appears that the *stem* is at length protruded beyond the insertion of the flower-stalk, and may occasionally bear an autumnal flower; when the first has ripened its seed. The *capsule* is oval, and is not curved, shorter than that of *C. alpinum. E. bot.*—Mr. LIGHTFOOT refers his Scottish specimens to the C. latifolium, but his figure represents the C. alpinum.

[Specimens from Mr. GRIFFITH, gathered on Clogwyn y Garnedd, agree with a specimen which I have from Switzerland. Mr. GRIFFITH observes that it grows in no other place about Snowdon.] P. June.

arven'se. C. Leaves strap-spear-shaped, bluntish, fringed at the base: blossoms larger than the calyx.

*E. bot.* 93–*Kniph.* 8–*Vaill.* 30. 4, *and* 5–*Ger.* 477. 11–*Fl. dan.* 626–*J. B.* iii. 360. 1–*Ger. em.* 595. 15–*Park.* 1339. 7.

*Leaves* pointed, covered with a short thick down. VAILL. *Petals* twice as long as the calyx. HALL.

*Corn Mouse-ear. Caryophyllus holosteus arvensis.* Ger. em. 595. Corn fields, gravelly meadows and pastures, at the foot of walls, dry banks and heaths, in Cambridgeshire. Dupper's Hill, near Croydon. [About Bury, frequent, amongst corn. Mr. Woodw. Near Norwich. Mr. Crowe. By hedges, but rarely among corn. Mr. Robson.] P. May—Sept.

C. Flowers with 5 stamens: petals notched at the end. semidecandrum.

*Dicks. h. s.–Curt.* 122–*Ray* 15. 1. *at p.* 348–*Vaill.* 30. 2.

*Stems* very short. *Leaves* egg-shaped, opposite, somewhat channelled, blunt, sprinkled with very short hairs. *Fruit-stalks* very short, each with 1 flower. *Calyx* with glutinous hairs, membranaceous at the point and edges. *Petals* strap-shaped, white, sharply notched at the end. *Stam.* 5, with white anthers, the 5 inner ones without anthers. Five nectariferous *dots* between the fruitful stamens and the petals. Linn. Barren filaments not found with us. *Stamens* fertile ones sometimes more than five. *Flowers* white.

*Least Mouse-ear.* Walls, pastures and heaths. A. April, May.

C Flowers with 5 stamens: petals cloven, as long as the calyx: capsule twice as long. pumilum.

*Curt. Fl. Lond.*

Discovered by Mr. Dickson. Nearly allied to the C. semidecandrum, but distinguished from that by the flowers being more conspicuous, the petals being near twice the size, fully as long as the calyx, and cloven to $\frac{1}{3}$ of their length. The capsules also are much longer, being for the most part twice the length of the calyx. Curtis.

On dry banks near Croydon. A Feb. March.

(2) *Capsules roundish.*

C. *umbellatum, see* Holosteum *umbellatum.*

C. Leaves oblong, cottony: fruit-stalks branched: capsules globular. tomentosum.

Whole *plant* white, with a dense, compact down. *Stems* in a thickly matted tuft, forked, with sometimes a single flower on a long fruit-stalk from the division; the divisions branched, expanding, each branch bearing a sort of umbel. *Leaves* gradually narrower downwards. *Petals* white, as long again as the calyx, cloven not half way down, segments blunt. Woodward.

*Woolly mouse-ear.* Specimens gathered in the garden of Mr. Bonfoy of Ripton, whose Gardener, Mr. Whitelock, now Nurseryman at Fulham, assured me that it was the individual plant

he had transplanted from Ripton Wood, Huntingdonsh. where he found it growing wild, and where we searched for it, but without success. Mr. WOODWARD.

aquat'icum. C. Leaves heart-shaped, sitting: flowers solitary: capsules pendent.

*E. bot.* 538–*Curt.*–*Dod.* 29. 1–*Ger. em.* 611. 1–*Park.* 759. 2–*Ger.* 488. 1.

In habit much resembling the larger plants of the Stellaria media, but the petals are much larger than the calyx, and the hairiness on the stem is general and not limited as in that plant to a line extending along it. *Leaves* often heart-spear-shaped, and sometimes curled at the edge. Whole *plant* set thick with fine short hairs, terminated by globular heads, containing a clammy liquor. *Flowers* white.

*Marsh Mouse-ear.* Watery places, banks of rivers mostly amongst bushes. P. July.

SPER'GULA. *Cal.* 5 leaves: *petals* 5, entire; *caps.* egg-shaped, of 1 cell and 5 valves.

arven'sis. S. Leaves in whirls: flowers with more than 5 stamens: stems thick at the joints.

*Curt.*–*Fl. dan.* 1033–*Dod.* 537–*Lob. obs.* 467. 1–*Ger. em.* 1125–*Park.* 562–*J. B.* iii. 722. 1–*Pet.* 59. 6.

*Leaves* 6 in a whirl, 3 on each side, cylindrical, thread-like, woolly, clammy. *Fruit-stalks* branching, LINN. *Stamens* in the autumn frequently fewer than 10. *Seeds* rough with rising dots, when ripe black, with a white border. *Flowers* white.

*Corn Spurry.* Corn fields and sandy places, especially where water has lain; gravel walks. A. July—Sept.*

subula'ta. S. Leaves in whirls, hairy at the edge, rather pointing one way: stems thread-shaped, flowers solitary.

*Curt.* 139.

Whole plant set with short hairs, terminating in minute globules. *Stamens* from 5 to 10. *Petals* white, roundish, as long as the calyx.

* Poultry are fond of the seeds; and the inhabitants of Finland and Norway make bread of them when their crops of corn fail. Experience shews it to be very nutritious to the cattle that eat it. Horses, sheep, goats, and swine eat it. Cows refuse it.

This has been considered by some of our most accurate botanists as the S. laricina or the S. saginoides of Linnæus, but Mr. Afzelius informs me it is neither, but a kind of intermediate plant between the two. 'The S. saginoides is more branched, has swollen knots at the joints of the stems, with a remarkable contraction just under the knots; it is also a larger plant, is destitute of hairyness, and its flowers always contain 10 stamens. The S. laricina has the leaves in opposite pairs, with bundles of young leaves or branches in the axillæ. The fruit-stalks are smooth and furnished with floral leaves.' The calyx leafits are 3-fibred, the stamens are always 10, and the flowers much larger than those of the S. subulata.

S. *saginoides*. CURT. S. *laricina*. LIGHF. HUDS. Dry pastures in a gravelly soil. Uxbridge Moor. Isle of Bute; Cobham and Esher, Surry; Devonshire and Cornwall? Putney Heath, Coomb Wood, Surry; Bagshot Heath, Potnell Warren, near the great bog at Virginia Water. [Sandy ground by road sides near Forfar, and between Dundee and St. Andrews. Mr. BROWN.] P. June.—Aug.

S. Leaves opposite, awl-shaped, smooth: stems simple. nodo'sa.

*Curt.* 261–*E. bot.* 694–*Kniph.* 11–*Fl. dan.* 96–*J. B.* iii. 724–*Ger.* 567. 6–*Park.* 427. 3–*Pluk.* 7. 4–*Pet.* 59. 5.

Bunches of very minute leaves in the bosom of the opposite leaves, which are the rudiments of small branches. RAY. *Stems* trailing, slightly hairy, rarely branched. *Flowers* terminating, solitary, white.

*Knotted Spurry*. Marshy places, wet pastures and sides of rivers, lakes, and marshes. [Bogs about Settle, and in the North. CURT.—Boggy ground in Sutton Park, Warwickshire. Dr. STOKES.—Side of the lake at Llanberris, plentiful. Mr. AIKIN.] —Mr. NORRIS has discovered this plant, of a diminutive size and comparatively glaucous hue, in a very unusual situation. He says it grows near Bromham, Wiltsh. upon the southern and sun-burnt brow of a chalky eminence called Morgan's-Hill, within a furlong south of the ancient Wansdike; living in a spot most parched and dry, (among loose flints, &c. and associating with the Sedum acre, Poa rigida, Phyteuma orbicularis, and Asperula cynanchica). P. July—Sept.

## CLASS XI.

# DODECANDRIA.

## MONOGYNIA.

CERATOPHYL'LUM. *Flowers* M. and F. on the same plant: *Bloss.* none; *Cal.* with many divisions.

F. *Style* none: *Seed* 1.

AS'ARUM. *Bloss.* none: *Cal.* 3-cleft; superior: *Caps.* 6-celled.

LY'THRUM. *Bloss.* 6 petals: *Cal.* 12-toothed; beneath: *Caps.* 1 or 2 celled.

## DIGYNIA.

CAR'PINUS. *Flowers* M. and F. on the same plant: *Bloss.* none: *Cal.* 1 scale; fringed.

M. *Stam.* 10 to 16.

F. *Germens* 2; with 2 styles to each: *Nut* egg-shaped.

AGRIMO'NIA. *Bloss.* 5 petals: *Cal.* 5-cleft: *Seeds* 1 or 2.

[Mercurialis. Cratægus.]

## TRIGYNIA.

FA'GUS. *Flowers* M. and F. on the same plant: *Bloss.* none.

M. *Cal.* 5-cleft; bell-shaped.

F. *Cal.* 4-toothed; changing into a capsule, prickly; 4-valved; 2-seeded.

RESE'DA. *Bloss.* petals many-cleft: *Cal.* divided: *Caps.* 1-celled; gaping open.

EUPHOR'BIA. *Bloss.* petals fixed by the center: *Cal.* bellying: *Caps.* 3 united dry berries.

## TETRAGYNIA.

[Tormentilla erecta.]

## HEXAGYNIA.

[Sedum Dasyphyllum.]

## DODECAGYNIA.

SEMPERVI'VUM. *Bloss.* 12 petals: *Cal.* with 12 divisions: *Capsules* 12.

[Thalictrum alpinum.]

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## MONOGYNIA.

ASA'RUM. *Calyx* 3 or 4-cleft, sitting on the germens: *bloss.* none: *caps.* like leather, crowned, of 6 cells: but no valves.

A. Leaves kidney-shaped, blunt, in pairs. Europæ'um.

*Wood.* 86–*Kniph.* 9–*Lud.* 182–*Sheldr.* 19–*Fl. dan.* 633–*Mill. ill–Blackw.* 383.–*Trag.* 64–*Dod.* 358–*Lob. obs.* 328. 2–*Ger. em.* 836. 1–*H. ox.* xiii. 7. *row* 3. 1–*Park.* 266. 1–*Matth.* 36–*Fuchs.* 10–*J. B.* iii. 548–*Mill.* 53. 1. *a.*

*Flowers* purplish.

*Asarabacca.* Woods and shady places, Lancashire. P. May.*

CERATOPHYL'LUM. Male and Fem. flowers on the same plant: *cal.* with many divisions: *bloss.* none.

Male. *Stamens* twice as many as the segments of the calyx.

Fem. *Style* none: *nut* coated, without valves.

* The root powdered, and taken to the amount of 30 or 40 grs. excites vomiting. If it is coarsely powdered it generally purges. The powder of the leaves is the basis of most of the Cephalic Snuffs, which occasion a considerable discharge of mucus from the nostrils without much sneezing. An infusion of 1 or 2 drams of the leaves, in wine, vomits. Cows eat it.

demer'sum. C. Leaves forked, toothed; lower ones strap-shaped; upper ones much crowded, tubular and inflated, beaks of the capsule of equal length.

*Fl. dan.* 510–*Loes.* 12 *at p.* 67–*Vaill. hist. de l'acad. vol. for* 1719. *p.* 21.

*Root* striking deep in the mud. *Stem* much branched, the lower part generally covered with mud. *Leaves* in whirls, about 8 in a whirl, the lower whirls about half an inch distant, but closer upwards, and extremely crowded towards the end; twice-forked, bristle-shaped, harsh and somewhat brittle, semi-transparent, green, spotted with short purple lines, and the extreme forks toothed on the outside only; those on the part of the stem covered with or lying in the mud, short, forked, much thicker than those above, and appearing as if broken or bitten. *Flowers* few, in the bosoms of the leaves. *Seed-vessel* with 1 long thorn at the summit; and 2 shorter on opposite sides near the base. Mr. Woodward.

*Floating Hornweed.* Ditches and slow streams. P. Aug. Sept.

submer'sum. C. Leaves forked, toothed; lower ones tubular and somewhat inflated; upper ones hair-like, near together; capsules with a short blunt point.

*E. bot.* 679–*Vaill. hist. de l'acad,* 2. 2, *vol. for* 1719. *p.* 16.

So nearly allied to C. *demersum* that it may prove to be only a variety. Linn. Specimens from Paris had the leaves twin-forked. I should not be inclined to consider it as a distinct species. Hall.

This species is certainly to be distinguished from the more common C. *demersum* by its fruit being unarmed, not furnished with 3 long divaricating thorns. E. bot.

Ditches on the side of the road from Chichester to the Isle of Selsey. *R. Syn.* [Near Yarmouth, Mr. Dawson Turner. E. bot.] Sept.

LY'THRUM. *Cal.* often with 12 or 16 teeth: *petals* 5 or 6, fixed to the calyx: *capsule* 1 or 2-celled, many-seeded.

Salica'ria. L. Leaves opposite or alternate, heart-spear-shaped; flowers in spike, 10 or 12 stamens in each.

*Curt.* 186–*Kniph.* 5–*Fl. dan.* 671–*Matth.* 950–*Clus.* ii. 51. 1–*Dod.* 86. 1–*Ger. em.* 476. 5–*Park.* 546. 1–*Pet.* 62. 6–*Blackw.* 520–*Ger.* 386. 2.

*Stem* upright, square. *Leaves* spear-shaped, sitting, all opposite, or all alternate, or the lower ones opposite and the upper

ones alternate. *Flowers* in tufts in the bosom of the leaves, sometimes close together; forming a long leafy spike. *Calyx* hairy, 6 of the teeth short and blunt, the other 6 awl-shaped. *Petals* fixed within the longer teeth of the calyx, red purple. Sometimes a single anther grows to one of the petals, and in this case, besides the 12 perfect stamens, a single filament is found without an anther.

*Purple-spiked Willowherb,* or *Loosestrife,* or *Grasspoly.*

Var. 1. Leaves 3 in a whirl: stem 6-cornered. RAY.

Marshes and banks of rivers. P. July, Aug.

L. Leaves alternate: flowers with 6 stamens. Hyssopifo'lium.

*Hall. jen.* 6. 2, *at p.* 295–*Jacq. austr.* 133–*E. bot.* 292–*C. B. pr.* 108–*J. B.* iii. 792. 3–*Ger. em.* 581. 2–*Park.* 220. 2–*Hall. jen.* 6. 3.

*Stems* trailing, rather stiff, branching, rod-like. *Leaves* alternate, sitting, strap-spear-shaped, quite entire. *Flowers* solitary, in the bosom of the leaves. *Calyx* tubular, with 5 or 6 open teeth. *Petals* 6, purple, white at the base. *Stamens* shorter than the calyx. LINN. *Stem* simple, or branched near the root, not so upwards. *Leaves* strap-shaped, scattered. *Flowers* nearly sitting. *Blossoms* blue. Mr. WOODWARD.

*Hyssop-leaved Willow-herb. Grasspoly. Small Hedge-hyssop.* Watery places, and where water has stood during the winter. [Near the Wheat Sheaf, 5 miles from Huntingdon, on the north road. Mr. WOODWARD.] A. July, Aug.

## DIGYNIA.

CARPI'NUS. Male and female flowers on the same plant: *bloss.* none: *cal.* 1 leaf, a fringed scale.

Male. *Stamens* 18 or 20.

Fem. *Germens* 2, with 2 styles on each: *nut* egg-shaped.

C. Scales of the cones flat. Bet'ulus.

*Matth.* 145–*Ger.* 1295–*Park.* 1406–*J. B.* i. *b.* 146–*Hunt. Evel. p.* 143; i. *p.* 138. *ed.* II.–*Clus.* i. 55. 2–*Dod.* 841–*Lob. obs.* 607. 2, *and ic.* ii. 190. 1–*Ger. em.* 1479–*Trag.* 1109–*Lonic.* i. 33. 2.

*Stamens* 8 to 16. LINN. *Filament* dividing at the top, each division supporting a distinct anther. *Bark* smooth, white. *Leaves* oval, pointed, sharply serrated.

*Common Horn-beam Tree. Hard-beam Tree. Horse*, or *Horn-beach Tree.* In woods and hedges. T. April, May.*

AGRIMO'NIA. *Calyx* 5-toothed, surrounded by another: *petals* 5: *seeds* 2, in a capsule at the bottom of the calyx, which becomes indurated.

Eupato'ria. A. Stem-leaves winged: the odd leafit on a leaf-stalk: fruit hispid.

*Curt.* 317–*Kniph.* 5–*Woodv.* 258–*Ludw.* 29–*Mill. ill–Fl. dan.* 588–*Ger.* 575–*Blackw.* 283–*Fuchs.* 244–*J. B.* ii. *p. k.* 398–*Dod.* 28. 1–*Lob. obs.* 394. 2–*Ger. em.* 712–*Park.* 594. 1–*Matth.* 1014–*Trag.* 514–*Lonic.* i. 218. 1.

*Stem* cylindrical, roughish, hairy. *Leaves* hairy, covered with rising dots, and segments ending in small reddish glands, interruptedly winged; the smallest pair of little leaves entire, the others deeply serrated, oblong-egg-shaped. *Fruit-stalks* surrounded at the top with a sort of outer calyx, which is cloven into 5 spear-shaped irregular segments, hairy at the edges and the outside. Within this the fruit-stalk is covered with white upright bristles, above which again is a circle of numerous green awns hooked at the end, and within these, the proper calyx of 5 leaves, spear-shaped, concave, glandular without, within marked with 3 deeper green lines, terminating with a reddish point. *Petals* egg-shaped, concave, very slightly notched at the end, twice as long as the cup. *Stamens* 5 to 12. *Germen* crowned with the calyx, and a yellowish fleshy receptacle. *Styles* thread-shaped. *Summits*, 2 thin lips at the end of each style. *Capsule* egg-shaped, hairy, ribbed. *Seeds* nearly egg-shaped, flatted on one side. *Flowers* in long, upright, terminating bunches; fine yellow.

*Common Agrimony.* Borders of cornfields, shady places, and hedges. P. June, July.†

* It loves a poor stiff soil, on the sides of hills; is easily transplanted, and bears lopping. In 1764, in Lord Petre's park, at Writtle, in Essex, stood a Horn-beam tree, measuring full 12 feet in girth, at 5 feet above the ground. Bath Soc. i. Mr. MARSHAM.—Cattle eat the leaves, but pasturage will not flourish in its shade.—The wood burns like a candle; it is very white, very tough, harder than hawthorn, and capable of supporting a great weight. It is useful in turning, and for many implements of husbandry. It makes cogs for mill wheels; even superior to Yew.—The inner bark is much used in Scandinavia to dye yellow.—The *Phalæna brumata* and *rostralis* feed upon it.

† The Canadians are said to use an infusion of the root in burning fevers, and with great success. An infusion of 6 ounces of the crown of the root, in a quart of boiling water, sweetened with honey, and half a pint of it, drank 3 times a day, Dr. Hill says, is an effectual cure for the jaundice. He advises to begin with a vomit, afterwards to keep the bow-

## TRIGYNIA.

FA'GUS. Male and female flowers on the same plant: *bloss.* none.

Male. *Calyx* 5-cleft: bell-shaped.

Fem. *Calyx* with 4 teeth, changing into a prickly 4-valved, 2-seeded capsule.

F. Leaves spear-shaped, with tapering serratures, naked underneath. Casta'nea.

*Kniph.* 5–*Hunt. Evel. p.* 159. 1. *p.* 153. *ed.* II.–*Mill.* 84–*Tourn.* 352–*Nat. disp.* ii. 30. *at p.* 290–*Nat. delin.* ii. 19. 3. *at p.* 312–*Matth.* 211–*Dod.* 814. 1–*Lob. ic.* ii. 160. 2, *and obs.* 588. 1–*Ger. em.* 1442. 1–*Park.* 1400. 1–*J. B.* i. *b.* 121–*Gars.* 204–*Ger.* 1253. 1–*Blackw.* 330–*Fuchs.* 377–*Trag.* 1100–*Lonic.* i. 31. 1.

*Catkins* cylindrical. LINN. *Leaves* ending in a long very taper point; serratures ending in a kind of thorn. Mr. WOODW.

*Chesnut Tree.* Woods and hedges, in Kent, common. [Burleigh Park, in great abundance, Mr. WOODW.] T. May.*

There is a cultivated variety with larger and more glossy

els soluble, and to continue the medicine as long as any symptoms of the disease remain.

Sheep and goats eat it. Cows, horses, and swine refuse it. LINN.—The flowers, fresh gathered, smell like apricots.

* Nothing will thrive under its shade.—The wood is applicable to the same uses that oak is.—If the bark is not taken off, it makes poles for espaliers, dead fences and hop yards, and pipes to convey water under ground, which will last longer than elm or oak.—Some of the oldest buildings in London are said to be constructed with this wood.—At Tortworth, in Gloucestershire, there is a tree 52 feet round. It is proved to have stood there ever since the year 1150, and was then so remarkable as to be called the great Chesnut of Tortworth. It fixes the boundary of the manor, and is probably near 1000 years old. *Gent. Mag.* 1766, p. 321, where there is a drawing of it. Mr. Collinson, the author of this account, makes no doubt of the Chesnut being a native of England, and assigns the great profit that arises from them when cut for hop-poles, as the reason why it is so rare to see large trees in the woods.

Mr. Marsham measured this tree in the year 1759, at the height of 6 feet from the ground, where its girth was 46 feet 6 inches. He calculates that it cannot be less, probably much more, than 1100 years old, and that it was 540 years old when John came to the throne, and would then measure 11 yards in circumference. *Bath Soc.* 1.

The nuts are used for whitening linen cloth, and for making starch. They are roasted on small stoves in the streets by the fruit-women, and in winter form a very agreeable addition to our desserts. They constitute a great proportion of the food of the common people in the south of Europe; and hogs feeding on them as they run wild in the forests, are reckoned particularly excellent.

leaves and with 6 to 9 pistils to each seed-vessel. This is said to bear fruit more early, and of a larger size. Mr. STACKHOUSE.

sylvat'ica. F. Leaves egg-shaped; indistinctly serrated.

*Hunt. Evel. p.* 136. i. *p.* 131. *ed.* II.–*Matth.* 205–*Ger.* 1255 –*Dod.* 832–*J. B.* i. *b.* 118–*Lonic.* i. 33. 1–*Spect. de la nat.* ii. 29. 1, *at p.* 290–*Nat. delin.* ii. 19. 1, *at p.* 312.

*Catkins* globular. LINN. *Bark* smooth, white.

*Beech Tree.* Woods and hedges in a calcareous soil.

T. March, Apr.*

RESE'DA. *Calyx* 1 leaf, divided: *petals* jagged: *capsule* 1-celled, many-seeded, opening at the top.

Lute'ola. R. Leaves spear-shaped, entire, with a tooth on each side the base: calyx 4-cleft.

*E. bot.* 320–*Kniph.* 5–*Fl. dan.* 864–*Sheldr.* 93–*Trag.* 362–*Lonic.* i. 155. 4–*Ger.* 398. 1–*Matth.* 1307–*Dod.* 80–*Lob. obs.* 190. 3–*Ger. em.* 494–*Park.* 603. 1–*Pet.* 38. 12–*Blackw.* 282–*J. B.* iii. 465. 2.

*Stems* cylindrical, hollow, furrowed. *Leaves* strap-spear-shaped, with a very minute reddish tooth on each side of the base. *Floral-leaves*, 1 at the base of each flower. *Calyx* segments 4, spear-shaped, the 2 upper wide asunder. *Petals* 3, the *upper* hand-shaped, with 4 divisions; the 2 *lateral* ones oblong, sometimes cloven. *Nectary* broad, somewhat hollowed on the

* The tree is large and beautiful, but no verdure will flourish under its shade. It loves a fertile soil. Whilst young it is apt to suffer from exposure. It is difficult to transplant. It retains its old leaves through the winter. It bears lopping well, and may be trained to form very lofty hedges.—The wood is brittle; soon decays in the air, but endures under water. It is formed into tool handles, planes, mallets, chairs, and bedsteads. Split into thin layers it is used to make scabbards for swords. It is excellent fuel, and when burnt affords a large quantity of Pot-ash.—The leaves, gathered in autumn, before they are much injured by the frosts, make infinitely better mattrasses than straw or chaff, and endure for 7 or 8 years. The nuts, or masts as they are called, when eaten, occasion giddiness and head-ache; but when well dried and powdered make wholesome bread. They are sometimes roasted and substituted for coffee. They fatten swine, and are greedily devoured by mice, squirrels, and birds. The poor people in Silesia use the expressed oil instead of butter. Sheep and goats eat the leaves.

*Phalæna Populi, Coryli, pudebunda*; *Curculio Fagi*; *Scarabeus Melolontha*; *Aphis Fagi*, feed upon both species. LINN. A horse kept at grass eats it. Mr. HOLLEFEAR. In some parts of Hertfordshire, where the soil is a strong clay full of flints, these trees grow to a very large size, and are of extreme beauty. It does not relish a light soil. No tree is more beautiful when standing singly in parks or ornamental grounds, as it throws out its branches very regularly, and feathers almost to the ground. In woods or groves it grows clear of branches to a great height. Mr. WOODWARD.

outer side at the base, which is covered by a thin concave lid, formed by an expansion of the claw of the upper petal. *Stamens* 20 to 30, or more. *Germen* pyramidal, 3-sided, corners blunt. *Styles* none. *Summits* 3. *Capsule* with 3 valves, rolled inwards so as to enfold the seeds. *Flowers* yellow.

*Wild Woad. Dyers-weed. Dyers Yellow-weed.* [*Wolds. Woulds. Weld.* ST.] Meadows, pastures, walls, and barren uncultivated spots. [Coal-pit banks in Staffordshire and Shropshire, and about the ruins of Dudley Castle. Mr. SWAYNE observes that it is one of the first plants that grow on the rubbish thrown out of coal-pits. It is very common in Gloucestershire by the sides of roads, and also about Manchester, probably, as Mr. CALEY thinks, from scattered seeds from the dye-houses.]

A. June, July.*

R. All the leaves 3-cleft: the lower winged. lu'tea.

*Dicks. h. s.-E. bot.* 321-*Jacq. austr.* 353-*Ger.* 216. 1-*Lob. adv.* 76-*Ger. em.* 277. 1-*Park.* 823. 2-*Pet.* 38. 11-*J.B.* iii. 467.

*Calyx* segments 6, strap-shaped, the uppermost the smallest. Petals 6. *Stamens* to 20. RELHAN. *Flowers* pale yellow.

*Rocket Yellow-weed. Base Rocket.* Corn fields, meadows, pastures, chiefly in a calcareous soil; sometimes on walls. [Bungay, Suffolk. frequent. Mr. WOODWARD. On a wall at Clifton near Bristol. Mr. SWAYNE. Between Sunderland and South Shields. Mr. ROBSON.] A. June—Aug.

Var. 2. Curled-leaved.

*Bocc. pl. var.* 41. 3. *at p.* 76-*Pluk.* 55. 4.

Barren closes about Roe-hill and Northfleet.

Ray considers this as a perennial, and therefore a distinct species. It merits further attention. I can only add, that the R. luteola is not an uncommon plant in Portugal; that in all the specimens I saw there the leaves were curled, but that with the most attentive examination I could discover no other difference.

## EUPHOR'BIA. *Calyx* 1 leaf, distended: *bloss.* 4 or 5 petals, sitting on the calyx: *caps.* 3, united.

### (1) *Flowers solitary.*

E. Forked: leaves very entire, half-heart-shaped: flowers solitary, axillary: stems trailing. Pe'plis.

* This plant affords a most beautiful yellow dye for cotton, woollen, mohair, silk, and linen, and is that which is most commonly used by the dyers for that purpose, as it gives the brightest dye. Blue cloths dipped in a decoction of it become green. The yellow colour of the paint, called Dutch Pink, is got from this plant. The tinging quality resides in the stems and roots, and it is cultivated in sandy soils, rich soil making the stalk hollow and not so good. Cattle will not eat it, but sheep sometimes browse it a little.

*Clus.* ii. 187. 2–*Lob. obs.* 197. 3–*Ger. em.* 503, 20–*H. ox.* x. 2. 18–*Pet.* 53. 12–*Matth.* 1260–*Ger.* 406. 16–*Park.* 194. 7.

Plant generally red, or purple, *Stem* forked immediately from the root. *Branches* trailing, forked, of irregular lengths. *Flowers* on fruit-stalks. *Capsules* smooth, tipped with purple. Mr. WOODWARD.

*Purple Spurge.* Sandy sea shores. Between Penzance and Marketjeu, Cornwall; and Exmouth, Devonshire.

A. July, Aug.

(2) *Umbels with* 3 *spokes.*

Pe'plus. E. Umbels with 3 spokes; spokes forked: involucellums egg-shaped: leaves very entire, inversely egg-shaped, on leaf-stalks.

*Curt.–Fl. dan.* 1100–*Dod.* 375. 2–*Lob. obs.* 197. 2–*Ger. em.* 503. 19–*Park.* 194. 6–*H. ox.* x. 2. 11–*Pet.* 53. 11–*Ger.* 406. 15–*Walc.*

*Leaves* alternate. *Involucr.* egg-shaped. All the *flowers* fertile. *Petals* with 2 horns. *Fruit* smooth, or only rough at the edge. LINN. Umbel spokes divided and subdivided into forks 3 and 4 times over, the divisions straddling. *Blossoms* yellowish green.

*Petty Spurge.* Rich cultivated soil. A. July, Aug.

exig'ua. E. Umbels with 3 spokes; spokes forked: involucellums spear-shaped; leaves strap-shaped.

*Dicks. h. s.–Trag.* 296–*Curt.* 215–*Fl. dan.* 592–*Ger.* 503. 17–*Park.* 193. 5–*Pet.* 53. 6–*H. ox.* x. 2. 5.

*Petals* 4, crescent-shaped. Leaves of the Involucr. and Involucell. not broader than those of the stem. *Fruit* smooth. LINN. Plant sometimes simple, upright, but in a more luxuriant growth there is sometimes a pair of branches bearing 3-spoked umbels, rising from the lower part of the stem. Terminating umbel sometimes with 4 or 5 spokes, generally twice forked, sometimes more. *Involucr.* of 2 or 3, sometimes of 4 leaves, sitting, bent back, more or less tapering to the point. *Involucell.* of 2 leaves, sitting, hollowed out on one side. *Stamens* 5 to 9, swelling out into a globular form close under the *anthers*. *Summits* 6.

*Dwarf Spurge. E. exigua acuta.* LINN. Leaves pointed. RAY. In some native specimens the leaves are bluntly pointed, but I have never seen a native one of the *E. exigua retusa.* Dr. STOKES. Corn fields. A. July, [to Sept.]

Var. 2. Umbel with 5 spokes. RELHAN.

*Euphorbia segetalis.* MARTIN cat. WOODWARD. E. platyphyllos, β Huds. Comberton Hill, Cambridgeshire. Mr. RELHAN.

(3) *Umbels with 5 spokes.*

E. Umbel with generally 5 spokes; spokes cloven: involucellums heart-kidney-shaped: leaves tiled upwards. Paralias.

*Jacq. hort.* 188–*E. bot.* 195–*Dod.* 370. 1–*Ger. em.* 498. 1–*H. ox.* x. i. 24–*Park.* 184–*Pet.* 53. 8–*Ger.* 401. 1–*Matth.* 1252–*Dod.* 370. 2.

*Petals* entire. *Plant* sea-green. LINN. *Leaves* very entire, somewhat pointed. JACQ. *Stems* numerous, ascending, thickly tiled with leaves, lower part generally red. *Leaves* smooth, fleshy, pointing upwards, gradually increasing in size from below; the lower ones strap-spear-shaped, or oblong, sitting; the upper ones oval-spear-shaped, half embracing the stem. *Fruit very* large, smooth. WOODWARD. The shortness of the spokes of the umbel, and the leaves pointing nearly upright, lying one over another so closely as to hide the stem, at once distinguish this from all its British congeners. When cultivated in a garden the leaves become more expanded.

*Sea Spurge.* Sea shores. [Between Southwold and Dunwich, Suffolk. Mr. WOODWARD. Cornwall. Mr. WATT. West side of Walney Isle. Mr. ATKINSON. Dawlish, Devon.]

May—Sept.

E. Umbel with 5 spokes: spokes forked: involucellums somewhat heart-shaped, concave: leaves strap-spear-shaped, smooth, expanding. Portlandica.

*E. bot.* 441–*Ray* 24. 6. *at p.* 479.

*Stems* rather shrub-like, a hand's breadth high, smooth, cylindrical, red during the winter. *Leaves* alternate, nearly sitting, with a sharp point at the end, red underneath at the base. *Little branches* from the side from the bosom of the leaves; the lower barren, but at length growing out and resembling the stem. *Spokes* wide-spreading. *Involucrums* similar to the leaves. *Involucell.* sharp-pointed. *Flowers* nearly sitting, yellow, the 1st and 2d with only stamens; petals very blunt and without horns; the rest with stam. and pistils, and horned. *Fruit* smooth, but the corners rough with sharp points. LINN. *Spokes* from 3 to 5. *Central florets:* calyx with 5 sides, 5 blunt corners, and 5 slight clefts; segments more or less toothed at the end. *Petals* hairy on the inner side. *Stamens* 8 or 9. *Lateral florets:* calyx segments 4. *Petals* 4. *Stam.* 14 or more. *Filaments* surrounded

at the top with a ring. In all at the base of the flower are several flat, slender, skinny, woolly substances, cloven at the end. *Leaves* strap-egg-shaped.

*Portland Spurge.* Sandy sea shores. On the neck of land joining Portland to Dortsetshire. Near Exmouth, Devonshire, and near Caernarvon. [Cornwall. Mr. WATT. Lulworth Cove.] A. May—Aug.

stric'ta. E. Umbel of 4 or 5 spokes, each 3-cleft and these forked: involucella nearly ovate: leaves spear-shaped, serrated, entire at the base, smooth: capsules warty, hairless.

*E. bot.* 333.

*Root* small, fibrous. Whole plant hairless. *Stem* simple, upright, cylindrical, purplish. *General involucr.* ovate; *partial* heart-shaped, all serrated. *Petals* circular, entire, yellow. *Germen* clothed with tubercles, which as the fruit ripens become prominent prickles. *Styles* permanent, cloven, but united at the lower half. *E. bot.*—*Spokes* of the umbel from 2 to 5. The root in Petiver's figure is imaginary.

From the disagreement of our specimens with the Linnæan E. *verrucosa*, I had been led to suppose that there had been a mistake in calling our species the *verrucosa*, and expressing my suspicions on this point to Mr. Relhan, who seems to have been the first who found the plant since the time of Ray, he very obligingly sent me some young plants, but unfortunately they did not live. Dr. Smith now informs us, that our plant is the E. *stricta* of *Syst. Nat.* which Linnæus afterwards omitted, and confounded with the *verrucosa*. See *E. bot.* 333. A. Aug.

*Upright warty Spurge.* Corn fields in Essex, and Yorkshire. [In a corn-field on the north side of Eversden Wood, Cambridge. Mr. RELHAN.]

heliosco'pia. E. Umbel with 5 spokes, spokes with 3 divisions, and these forked: involucellums inversely egg-shaped: leaves wedge-shaped, serrated.

*Curt.-Kniph.* 12-*Walc.-Lob. obs.* 192. 2-*Ger. em.* 498. 2-*Park.* 189-*H. ox.* x. 2. 9-*Fl. dan.* 725-*Fuchs.* 811-*Trag.* 294-*J. B.* iii. 669. 1-*Ger.* 401. 2-*Pet.* 53. 10-*Lonic.* i. 98. 1-*Matth.* 1253.

*Leaves* alternate. Spokes of the umbel twice divided into 3, and these again forked. *Involucrum* leaves 5, similar to those of the stem. *Involucellums* of 3 leaves; at the forks 2 leaves. *Petals* 4, entire. All the *flowers* hermaphrodite. *Fruit* smooth. LINN.

*Wart-wort. Churn-staff. Cats-milk. Sun Spurge.* Common in cultivated places, as gardens and corn fields.

A. July, Aug.

E. Umbel with 5 spokes, spokes with 3 divisions, and these forked: involucellums hairy along the keel: leaves serrated, spear-shaped; capsules warty. platyphyllos.

*Jacq. austr.* 376–*Kniph.* 9–*Fuchs.* 813–*J. B.* iii. 670–*H. ox.* x. 3, *row* 2, 1.

Upper part of the *plant* greenish yellow. *Stem* upright a foot high, smooth. *Leaves* alternate, distant, expanding, smooth, finely serrated, nearly embracing the stem, with scattered hairs along the keel; the lower almost on leaf-stalks, broader towards the end; the upper nicked at the base, and above the base bent down at the sides. *Involucr.* spear-shaped. *Involucellums* egg-oblong; the rest egg-heart-shaped, all finely serrated. Petals entire, nearly circular, yellow. *Germens* obscurely warty. *Umbellules* with 3 divisions, from the bosom of the leaves. Linn. *Stem* unbranched, upright, smooth, but with a few scattered hairs. *Leaves* alternate, spear-shaped, very finely serrated, smooth above, hairy underneath, half embracing the stem. *Umbel* terminating, with 5 spokes, sometimes though rarely with 3; spokes forked, hairy. *Involucrum* 5 leaves, spear, or spear-egg-shaped, serrated. *Involucellums* half heart-shaped, serrated. *Caps.* surface rather granulated, but hardly to be called rough. About a foot high. Whole plant of a delicate yellowish green, not at all disposed to send out branches or lateral umbels. Spokes when in flower $\frac{1}{4}$ inch long, in fruit $\frac{1}{2}$ an inch or somewhat more.

Corn-fields. Black Notley, Essex. Between Harefield Common and Battle's-well. Near Northfleet. [Ripton, Huntingdonshire. Mr. Woodward. Isle of Wight. St. Amongst the corn on Salisbury Plain.]

A. June, July.

Var. 1. Leaves nearly entire, only at the base very finely serrated. Huds.

*Long-leaved Corn Spurge. R. Syn.* 312. 5. Dillenius asserts it to have been *E. platyphyllos. E. segetalis.* β Relhan. In the corn about Kingston and Comberton, Cambridgeshire, but Mr. Relhan tells me that this is not the Cambridgeshire plant, but the E. exigua, var. β.

(4) *Umbels with* 6 *spokes.*

E. Umbels with 6 spokes, spokes forked; involucellums oval: leaves very entire: branches none: capsules warty. hyberna.

*Dill. elth.* 290. 374–*Kniph.* 9–*Clus.* ii. 190. 1–*Dod.* 372. 2 –*Lob. obs.* 196. 2–*Ger. em.* 500. 12–*Park.* 188. 11–*Pet.* 53. 7–*H. ox.* x. 2.

*Leaves* oblong, either hairy or smooth. *Fruit* very warty. LINN. *Umbel* sometimes with only 5 spokes. *Leaves* nearly strap-shaped, pointed. Solitary fruit-stalks frequently arising from the bosom of several of the upper leaves.

*Makinboy. Knotty-rooted Spurge.* Corn fields, near Twitenham Park against Richmond; and near Otterspool; and between Feversham and Sittingborn, Kent; also in Ireland. P. Aug.

(5) *Umbels with many spokes.*

Es'ula. E. Umbel with many spokes, spokes cloven into two: involucellums, nearly heart-shaped: petals generally two-horned: leaves on the barren branches uniform.

*Hall. hist. Helv.* 1046–*Scop. carn.* 580.

All the *Flowers* fertile. *Petals* 4, of a yellowish colour, indistinctly divided into two horns. *Fruit* smooth. *Umbels* forked from the sides of the stem. LINN. This plant, now first ranked as a native of Britain, was sent by Mr. BROWN, who says it was found in the Hopetown woods, Linlithgowsh. by Mr. J. M'Ray; and also in a wood about 16 miles South from Edinburgh by Mr. Keil; in both these places undoubtedly wild.

Chara'cias. E. Umbel with many spokes, spokes forked: involucellums perforated, notched at the end: leaves very entire: stem shrub-like.

*Jacq. ic.* i.–*Kniph.* 1–*Riv. tetr.* 227, *Esula caule crasso.*– *Clus.* ii. 188. 1–*Dod.* 368. 2–*Lob. obs.* 194. 2–*Ger. em.* 499. 8–*Park.* 186. *f.* 2, *from the left.*–*J. B.* iii. 672– *Matth.* 1250.

Stem 4 feet high, somewhat woolly. Leaves spear-shaped, leather-like, somewhat downy, reflected, green, with an elevated rib on each side. *Umbel* small, crowded; spokes only once forked. *Involucr.* leaves several, small, rather spear-shaped, reflected. *Involucellums* cloven half way down. *Petals* 4, purple. Flowers within the first involucell. male, the rest hermaphrodite. LINN. Lateral branches numerous; stem-leaves closely tiled; floral leaves bent back. *Spokes* short. WOODWARD. Whole plant, except the flowers woolly. The stam. the edges and the mid rib of the lower leaves sometimes tinged with red. Lateral fruit-stalks numerous, solitary. *Umbel* spokes 7 or 8, less than an inch in length. *Involucr.* leaves inversely egg-shaped, entire.

*Involucellum* leafits slightly notched at the end. *Petals* dark purple, almost black. *Germens* very woolly.

*Red Spurge.* Woods and hedges, but rare. (Not now to be found). in Heywood Park, see Ray, and Plot's Staffordsh. On Malvern hill, between the Inn and the Wells. Near the great road betwixt Yoxall and Sudbury, Needwood Forest. Mr. WHATELY. S. June.*

E. Umbel with many spokes; spokes forked; involucellums nearly heart-shaped: leaves on the stem spear-shaped, on the barren branches bristle-shaped. Cyparissias.

*Jacq. austr.* 435–*E. bot.* 840–*Kniph.* 12–*Fuchs.* 812–*Blackw.* 163. 3–*Cam. epit.* 964.

The slender fir-like leaves on the barren branches at once distinguish this from the other British species. In its young state the umbel is very compact and almost globular, but as it expands the spokes grow out to the length of $1\frac{1}{2}$ inch, and are about 7 in number.

[Woods at the Earl of Stamford's at Enville. Barton Leat Wood, Bedfordshire. Rev. Mr. ABBOT in *E. bot.* 840.]

May, June.

E. Umbel with many spokes; spokes forked: involucellums perforated, circular: leaves blunt. amygdaloides.

*E. bot.* 256–*Walc.–(the old fig. are too bad to quote.)*

*Leaves* alternate, remote, thin, not leather-like and stiff. Some lateral umbels. Differs from *E. sylvatica* in its circular involucellums. In *E. Sylvatica* they are extended to a point. LINN. The flowering part of the stem during flowering grows to more than twice its original length. *Lateral flowering branches* numerous, twice forked. *Involucrum* leaves 5, roundish-inversely-egg-shaped. *Involucell.* circular or elliptical, cloven half way down on each side, and rounded at each extremity, with a small point just perceptible to the naked eye. *Petals* crescent-shaped, yellow. *Root-leaves* downy underneath. ST.

*Wood Spurge.* Woods and hedges, [in a clayey soil, frequent. Mr. WOODWARD. Devonshire and Somersetshire, common.]

P. May.

There is a var. with variegated leaves often cultivated in gardens.

* The powdered leaves, in doses of 15 to 25 grains, operate as a purge. The juice of every species of Spurge is so acrid, that it corrodes and ulcerates the body wherever it is applied, so that physicians have seldom ventured to use it internally. Warts or corns anointed with the juice presently disappear. A drop of it put into the hollow of a decayed and aching tooth, destroys the nerve and consequently removes the pain. Some people rub it behind the ears, that it may blister, and by that means give relief.

## DODECAGYNIA.

SEMPERVI'VUM. *Calyx* 12-cleft: petals 1, 6, 12, to 24: *caps.* 12, many-seeded, like a legumen.

tecto'rum. S. Leaves fringed: off-sets expanding.

*Schmid.* 53–*Curt.* 160–*Fl. dan.* 601–*Mill. ill.*–*Sheldr.* 59–*Trag.* 376–*Fuchs.* 32–*J. B.* iii. 687–*Blackw.* 366–*Clus.* ii. 63. 2–*Matth.* 1117–*Dod.* 127. 2–*Ger. em.* 510. 1–*Park.* 731. 3–*Ger.* 411–*H. ox.* xii. 7. 41.

*Flowering branches* bowed back. *Bloss.* pale red. St. *Leaves* fleshy *Calyx* not half as long as the blossom; *teeth* 11 or 12. *Petals* 12, smooth within, fringed with pellucid hairs at the edges, and on the outside. *Stamens* 6 to 25. *Pistils* 12, placed in an oval or triangular form.

*Cyphel. Common Houseleek.* Roofs and old walls. P. July.*

* The juice, either applied by itself, or mixed with cream, gives present relief in burns, and other external inflammations. Mixed with honey, it is a useful application in apthous cases. Sheep and goats eat it.

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